GROWTH AND CHARACTERISTICS OF THE FORT WAYNE ECONOMY

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INDIANA ECONOMIC COUNCIL

Room 404, State Library Building

Bulletin No. 17

November 1954

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PREFACE

During the spring of this year, representatives of the Fort Wayne Chamber of Commerce and the Fort Wayne Plan Commission approached the Economic Council with a request for "a general economic survey of the Fort Wayne area, with particular emphasis on industrial trends and potentialities"--evidently a study such as the Terre Haute survey, a cooperative research project organized by the Council. The Council was eager to fulfill this request, but a candid appraisal of the limitations of budget and staff led it to conclude that the staff should consider the possibility of "doing what it can, with a reasonable expenditure of time and money, that might be useful for leaders in the Fort Wayne community." A limited study was later outlined and accepted in a general fashion.

The materials included in this report carry the analysis of the selected topics about as far as one can using secondary (mainly Census Bureau) data. We believe this is a useful start. Suggestions for further study, which would require locally organized cooperative effort at the top levels, are made in this report.

The reader will notice that there is a wealth of comparative data in this study. In most cases, the areas compared include Fort Wayne and the other Indiana Standard Metropolitan Areas (as defined by the Census Bureau), but nearby metropolitan areas in Michigan and Ohio are included in some sections. This approach was planned from the beginning; it was considered to be a way to develop a great deal of information about a number of Indiana urban centers, for whatever use interested persons and agencies might have. It is a partial answer to occasional comments that the Council has concentrated too much of its research on only one or two areas.

Because the report is relatively short no review of the highlights seems to be necessary. Recent studies of Evansville and South Bend (cited herein) emphasized what is also characteristic of Fort Wayne: that the economic base is concentrated in a few types of manufactures subject to unstable demand. The splendid over-all, long-term performance is seldom mentioned because it is taken for granted in places such as these. It becomes a question of whether or not short-run deficiencies are conceived of as a "problem," and, if so, how "taking thought for the morrow," as a community, can improve the performance.

We are indebted to Dwight Kelley of the Employment Security Division for criticisms and suggestions covering parts of the report.

Philip Sundal
November 1954

PREFACE

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POPULATION GROWTH, FORT WAYNE AREA AND SELECTED AREAS

A. Regional Picture

Whatever future population growth Fort Wayne and Allen County can reasonably expect is dependent upon many factors. Generally speaking, these factors can be grouped under natural increase of population (births over deaths) and the movement of persons from one area to another. Assumptions concerning birth and death rates and immigration are crucial for the national scene; we shall merely assume a relatively high rate of natural increase in the near future, and leave to others the long-term prognostications.

The trends in growth within the region in which Fort Wayne is located will depend somewhat upon migration of persons to areas wherein job opportunities are growing. Although Fort Wayne might grow rapidly and the rest of the region grow little if any, or the region might grow rapidly and Fort Wayne stand still or even lose population, the chances are clearly evident that Fort Wayne and most urban centers will go along with the regional picture; in fact, the urban areas, with their outlying fringes, will probably continue to provide most of the new job opportunities and gain most of the population increase. Any single community that fails to increase its jobs will, of course, fall behind the region in growth, and those that gain exceptionally large numbers of jobs will far exceed the regional average. This has been the actual experience of cities in this part of the nation for several decades. Cities do not simply keep on growing.

It is true that the East North Central States (Indiana, Ohio, Michigan, Illinois and Wisconsin) have not grown quite as rapidly as the Nation during the last 50 years. The 5 states experienced a gain of about 90 percent from 1900 to 1950 and the U. S. gained about 98 percent. Individually, the gains were as follows:

Indiana	56.3%	1900-1950	
Michigan	163.2%	"	"
Ohio	91.1%	"	"
Indiana, Mich. & Ohio	100.7%	"	"
Illinois	80.7%	"	"
Wisconsin	66.0%	"	"

Indiana gained least, percentagewise, over the 50-year period, but Michigan's growth was exceptionally great and Ohio's was almost equal to the national average. Fort Wayne is near the borders of Michigan and Ohio, and within a growing part of Indiana.

During the 1940's, Indiana's growth was about 14.8 percent as against 14.2 percent for the five states and 14.5 percent for the U. S. Michigan, with a 21.2 percent gain, was highest in rate in the region; Ohio (15.0%) slightly exceeded Indiana. Illinois and Wisconsin (10.3 and 9.5) fell behind the Nation in rate of growth. The Tri-State Region (Indiana, Michigan and Ohio) in which Fort Wayne is located made an impressive growth during a period in which migration to areas offering greater opportunity was greatly accelerated.

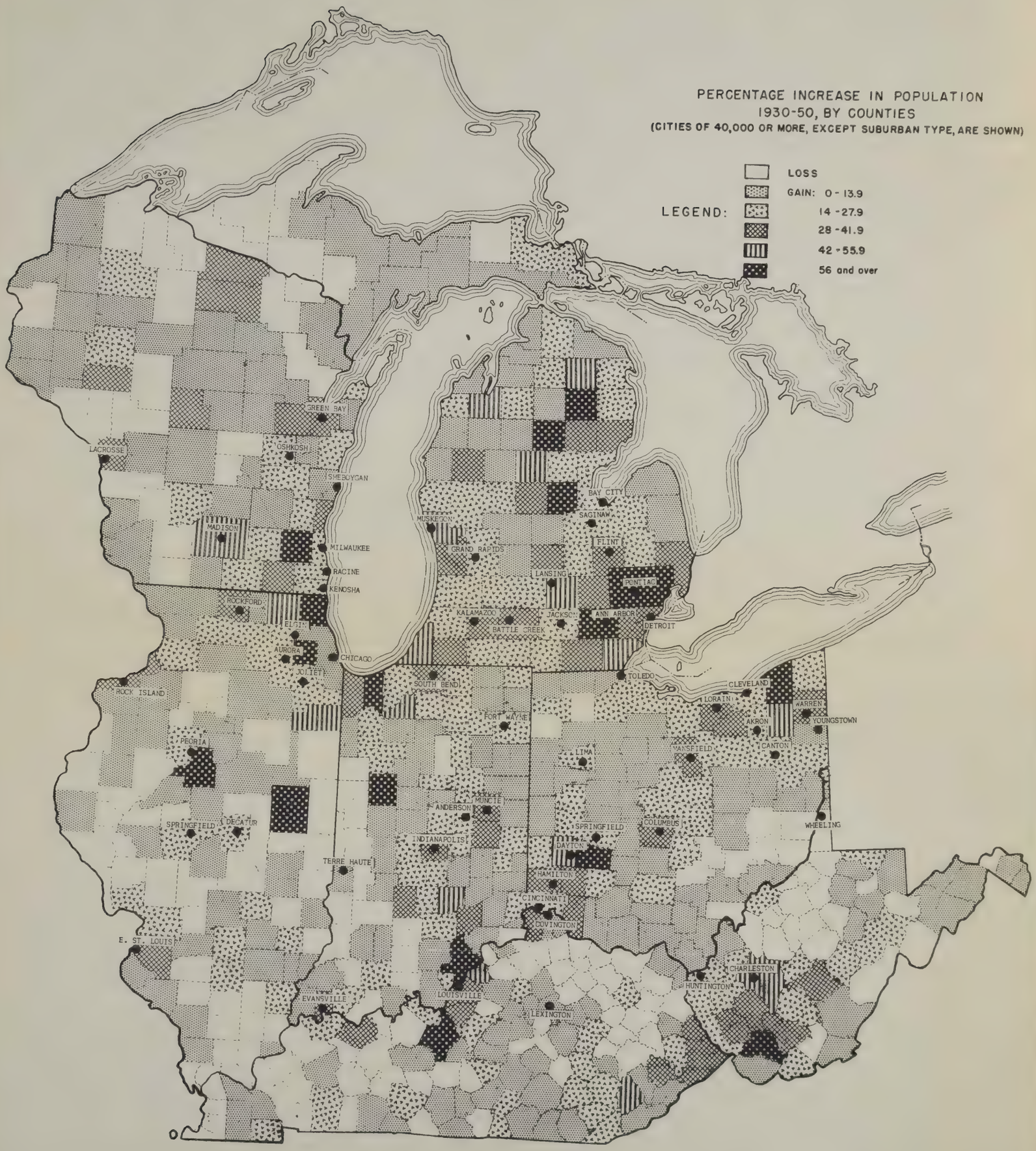
According to estimates prepared by the Bureau of the Census, the Tri-State Region has continued to make impressive gains since 1950. Population estimates are presented in the accompanying table. Michigan continues to lead in rate of gain, but Ohio and Indiana are reported to be gaining more rapidly than the Nation as a whole.

ESTIMATED INCREASE IN CIVILIAN POPULATION, 1950-54*

Area	Number	Percent Gain
U. S., total	9,450,000	6.3%
Indiana	271,000	6.9
Ohio	596,000	7.5
Michigan	650,000	10.2
Illinois	434,000	5.0
Wisconsin	140,000	4.1

* From April 1950 (Census) to July 1954. Excludes persons in the Armed Forces stationed in each area.
Source: Bureau of the Census, Series P-25, No. 104.

The over-all regional and state figures cover up vast differences in rate of growth within smaller units, such as counties. The accompanying map reveals how important it is to study the areal distribution of growth. The population changes



Indiana Economic Council

during the last twenty years (1930-50) do not provide a reliable forecast of the changes to come in the next twenty years, but it is common knowledge that trends tend to persist.

Study of the map shows that there has been a patterning of areas of loss and gain in population. The reader will immediately relate losses to such things as decline in coal-mining employment in certain areas, migration from poor hill counties, loss of opportunity in once-forested regions, and decline of population in good farming counties distant from industrial cities (outside range for factory commuters).

The areas with a gain of less than 14 percent are also falling behind in some respects. Typically, they are losing many of their young men and women to areas which gained at an above-average rate--average being about 21 to 22 percent in this region. The counties with gains of less than 14 percent are also patterned, being usually around the "loss" counties.

In the range of 14 to 28 percent fall the counties which experienced an "average" gain. The average (21-22%) is in the middle of this range. Counties with an average gain are not scattered in random fashion either--they tend to lie between the faster-and slower-growing groups.

The faster-growing counties are seen to be fringe areas of the largest cities, selected smaller independent communities in which industrial growth took place, areas wherein military projects were constructed, favored resort counties, and the like. Types are too numerous to discuss; also, the interesting hypotheses suggested by the map fall outside the content of this report.

Getting back to Fort Wayne, the reader will notice that Allen County was among the average gainers (25%) in population. Most of the counties around it experienced less than an average gain. To the northeast, in Ohio, there were even "loss" counties. Fort Wayne is surrounded, except to the west, by a large area that has made little growth in the last 20 years. The gain has been far below average to the east and southeast, expecially into northwestern Ohio. With development of

surface water resources it seems probable that parts of this section will attract more industry. 1/

Granted Fort Wayne appears to be in a relatively weak area, in terms of population growth, there is anotherpoint worth emphasis. It is the principal city in a large area--an independent community in an economic sense and thus a city which will continue to provide a wide range of services for a large hinterland. Gains in economic activity in the environs, which now appear likely, will increase business in Fort Wayne. However, in the long run the gain in industrial jobs in Allen County should have the most direct bearing upon the future growth of Fort Wayne.

B. Growth of Population in Fort Wayne Standard Metropolitan Area (Allen Co.) Compared With Selected Areas

Comparison of population gains in the Fort Wayne Area and in other areas of various types and sizes should give a number of interesting and suggestive ideas that supplement and elaborate upon the preceding discussion.

Figure 1 gives a pictorial impression of the comparative rate of growth of the Fort Wayne Standard Metropolitan Area and selected standard metropolitan areas in the Tri-State Region. (In all these cases the standard metropolitan area is the single county in which the central city is located.) The slope of the line indicates the comparative percentage change. It is immediately apparent that most of the areas have had a similar experience--what happens to one is likely to be happening to another in the region. 2/ Fort Wayne has grown more steadily than most, without

1/ Northwestern Ohio is believed to have been bypassed by industry largely because of water-supply limitations. Rock wells have been only modest producers. Several reservoirs have been constructed and others are in prospect. The latest evidence of renewed growth in this area is announcement by Standard Oil that it will build a large petrochemical plant at Lima. Mr. H. G. Steegman of the Indiana-Michigan Electric Company has helped in analyzing this situation.

2/ It is true, generally, that all these cities are manufacturing centers, with heavy metals industries predominating. All have come under the influence of the auto industry.

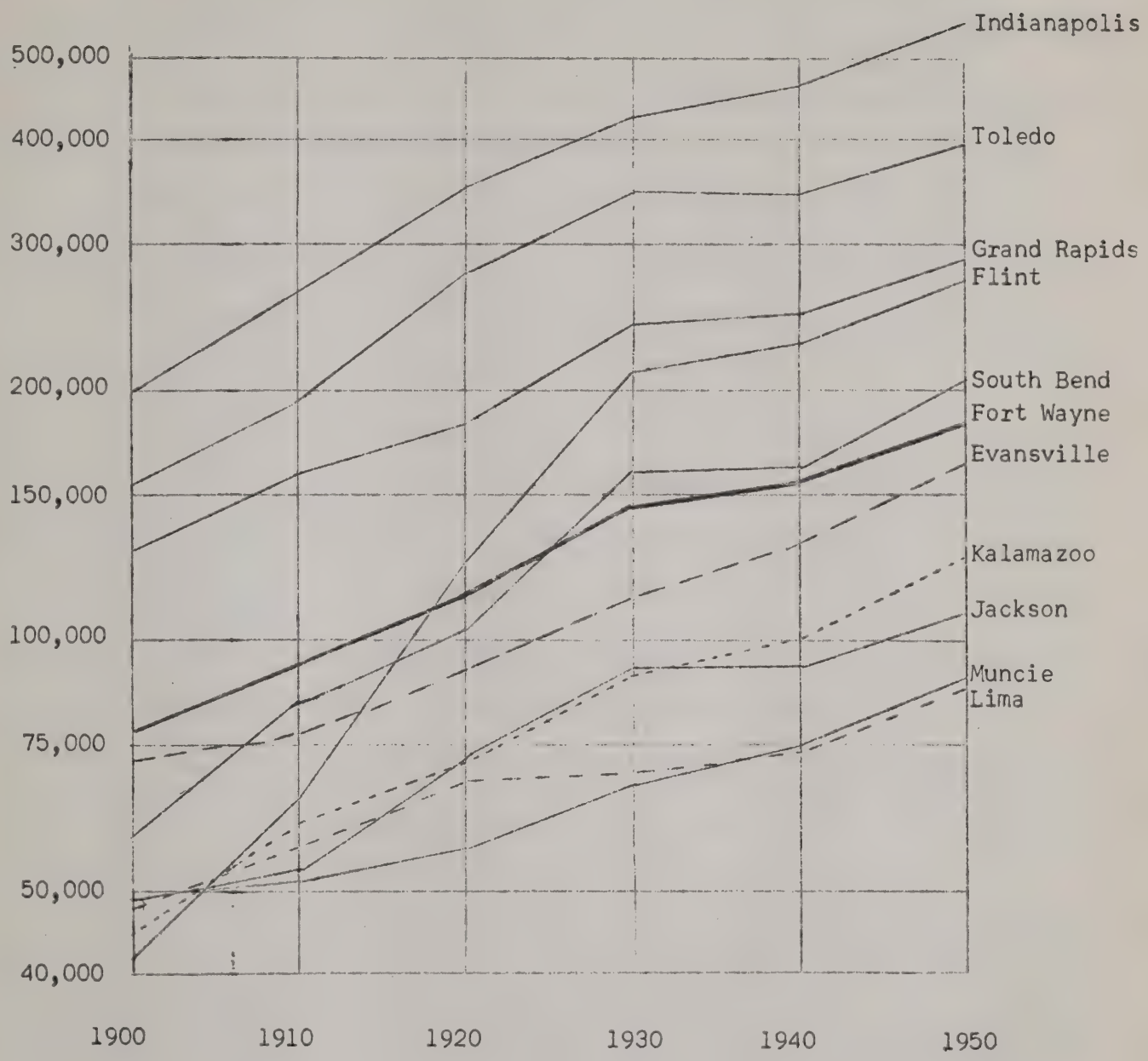


Figure 1

POPULATION GROWTH, FORT WAYNE METROPOLITAN AREA AND SELECTED METROPOLITAN AREAS IN INDIANA, OHIO AND MICHIGAN

the spectacular gains of Flint and South Bend during periods in which the auto industry made extraordinary progress.

More detailed analysis of the population changes in the Fort Wayne Area is provided by the succeeding charts. These are all of the same type; the percentage gain during each decade is plotted on coordinate paper and the points have been joined for the reader's convenience.

Figure 2 helps one to put the Fort Wayne Area into a better perspective than has been provided to this point. The local growth was between 20 and 30 percent each decade to the 1930's, when it dropped to less than 6 percent. The 1940-50 gain was above 18 percent.

The 162 metropolitan areas in the U. S. (combined) grew considerably faster than Fort Wayne during all decades except 1920-30. The 23 areas, including Fort Wayne, which first attained a total population of 100,000 or more at the 1920 census grew much more rapidly, on the average, than Fort Wayne. (These 23, generally younger-type areas, outgrew the older, large ones, on the average.) On the other hand, Fort Wayne has grown more rapidly than the U. S. and East North Central States, on the average. Notice should be taken of the fact that lines connecting percentage changes generally trend in the same direction--again emphasizing that growth tends to be shared.

Figure 3 provides a comparative picture of the rate of growth of the Fort Wayne Area and of the largest cities in the region. Over the 50-year period they all out-gained Fort Wayne, but Fort Wayne's rate of growth exceeded that of Chicago and Cleveland during the last two decades. The Detroit Area has been in a class by itself, but even Detroit has fallen into about the same pattern as the others since 1930.

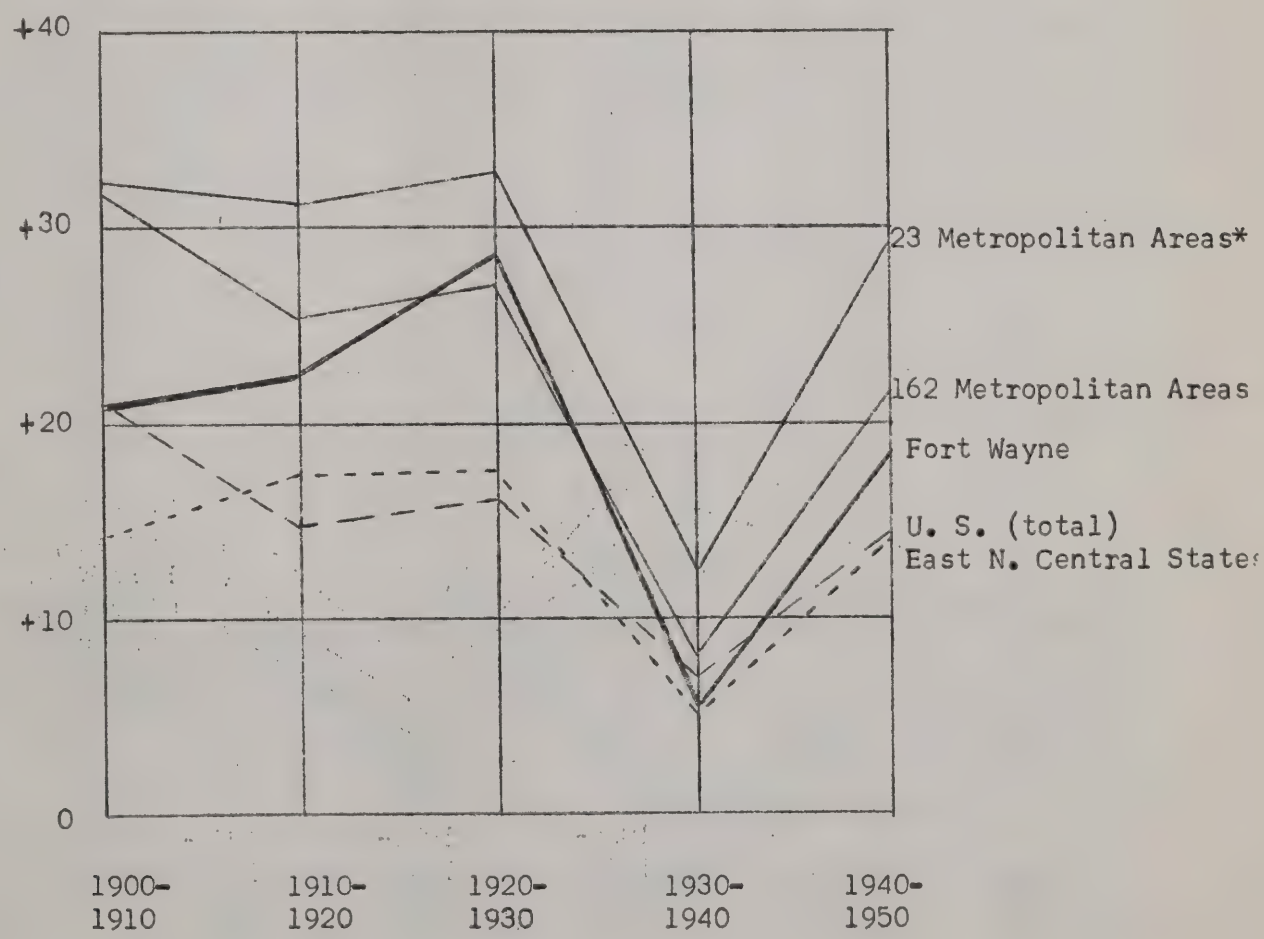
Figure 4 gives a comparison between Fort Wayne and a group of areas that are more nearly its size. The Flint experience (autos) has been practically the same as Detroit's. South Bend presents a picture of a roller coaster--Grand Rapids to a lesser extent.

Figure 2

PERCENT INCREASE IN POPULATION DURING DECADES, AS SHOWN

% Increase 1900-1950:

U. S.	98.3%
East North Central States	90.2%
162 Metropolitan Areas	177.8%
23 Metropolitan Areas	235.9%
Fort Wayne Metropolitan Area	137.8%



* Including Fort Wayne, which first attained total population of 100,000 (officially) at 1920 census.

Figure 3
PERCENT INCREASE IN POPULATION DURING DECADES, AS SHOWN

(Metropolitan Areas)

% Increase, 1900-50:

Fort Wayne 137.8%
Chicago 162.6%
Cleveland 218.0%
Detroit 606.6%
Indianapolis 179.8%

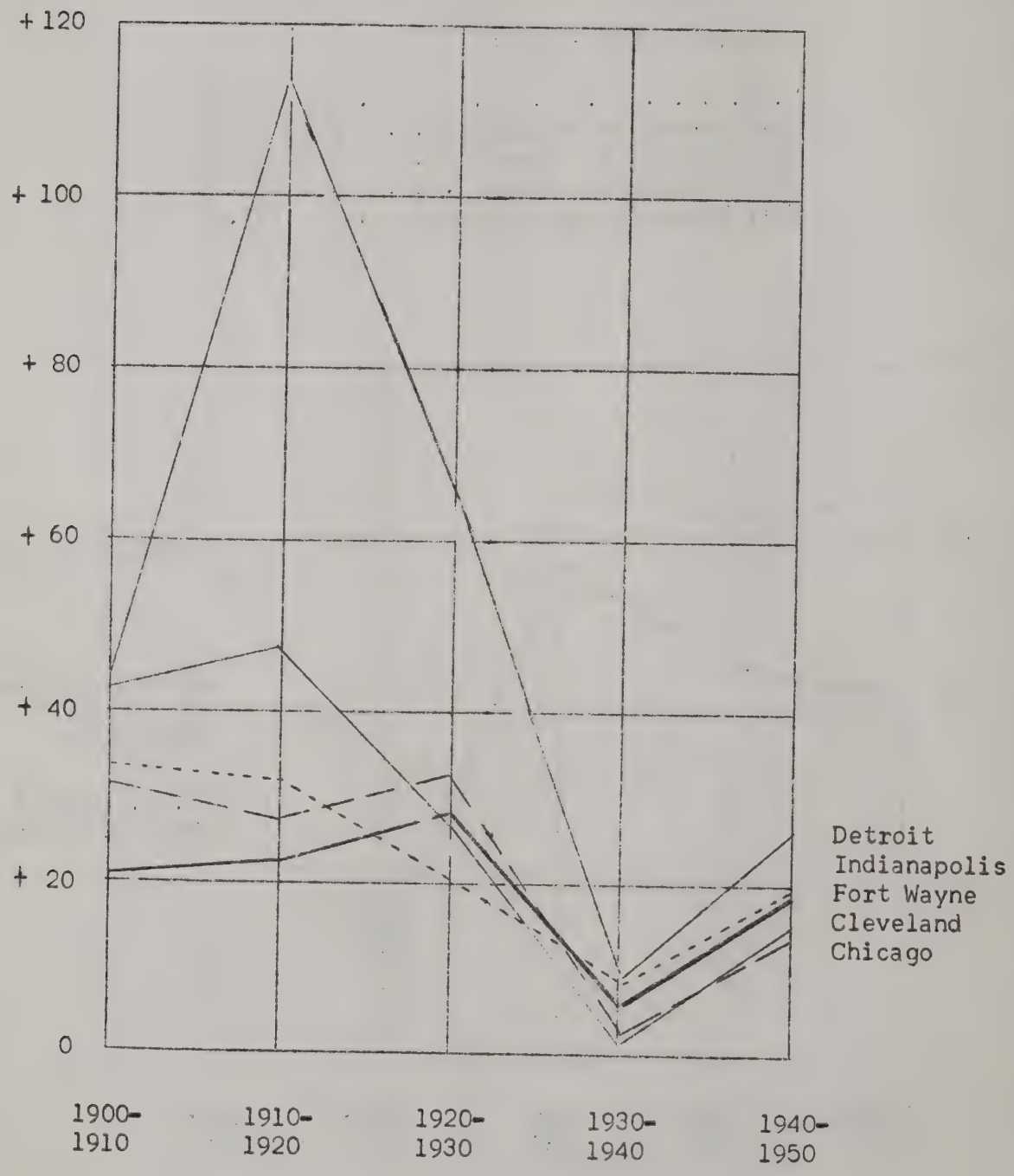


Figure 4

PERCENT INCREASE IN POPULATION DURING DECADES AS SHOWN

(Metropolitan Areas)

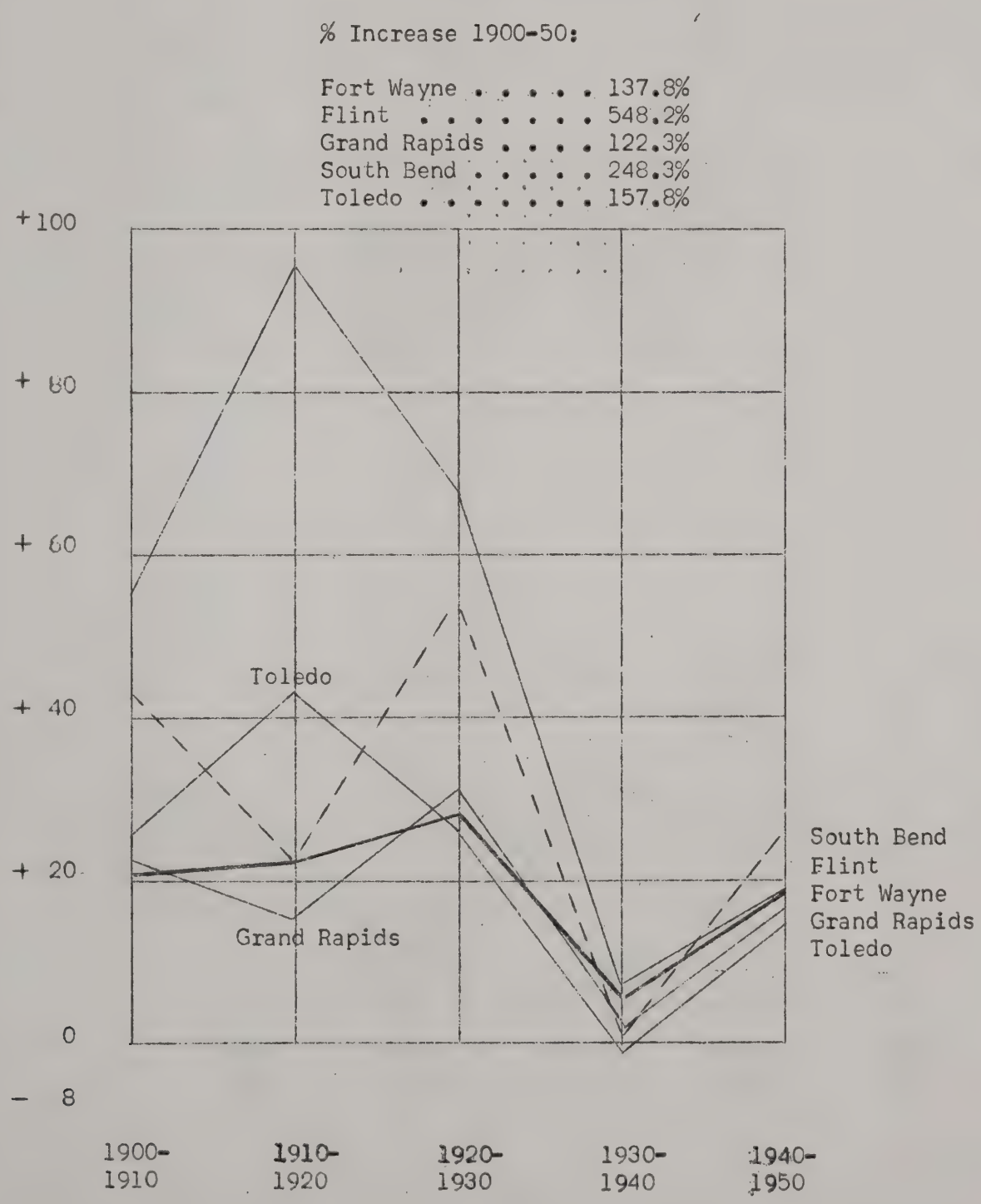


Figure 5

PERCENT INCREASE IN POPULATION DURING DECADES, AS SHOWN

(Metropolitan Areas)

% Increase 1900-1950:

Fort Wayne	137.8%
Jackson	123.8%
Kalamazoo	186.0%
Lima	83.8%
Muncie	81.9%

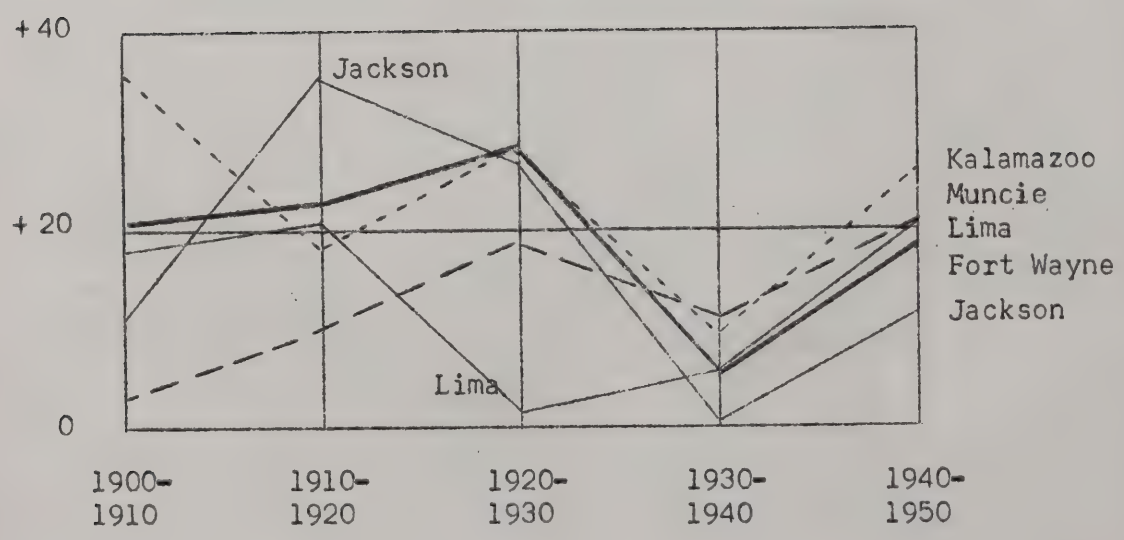


Figure 5, comparing the rate of growth of Fort Wayne with a smaller group of standard metropolitan areas within the region, reveals that among these areas Fort Wayne again presents a rather stable growth picture. Only Kalamazoo has experienced a higher rate of growth over the 50-year period.

In the perspective afforded by this series of charts, one gets a picture of the Fort Wayne Area as one in which growth has been relatively consistent rather than spectacular. 3/ (This, according to students of the subject, tends to enable a community to make adequate and healthy adjustments to growth.) On the other hand, Fort Wayne and all but two or three areas shown on the charts had a comparatively unfavorable experience during the 1930's. (Compare the U. S. 1930-40, in Figure 2 with separate metropolitan areas.) National prosperity is doubly important to these metropolitan areas.

3/ A number of cities in the southeast, southwest and west have made the most spectacular gains. Federal installations had much to do with this development.

C. Growth in Number of Jobs and in Population, Fort Wayne Economic Area and Other Indiana Areas, 1930 to 1950

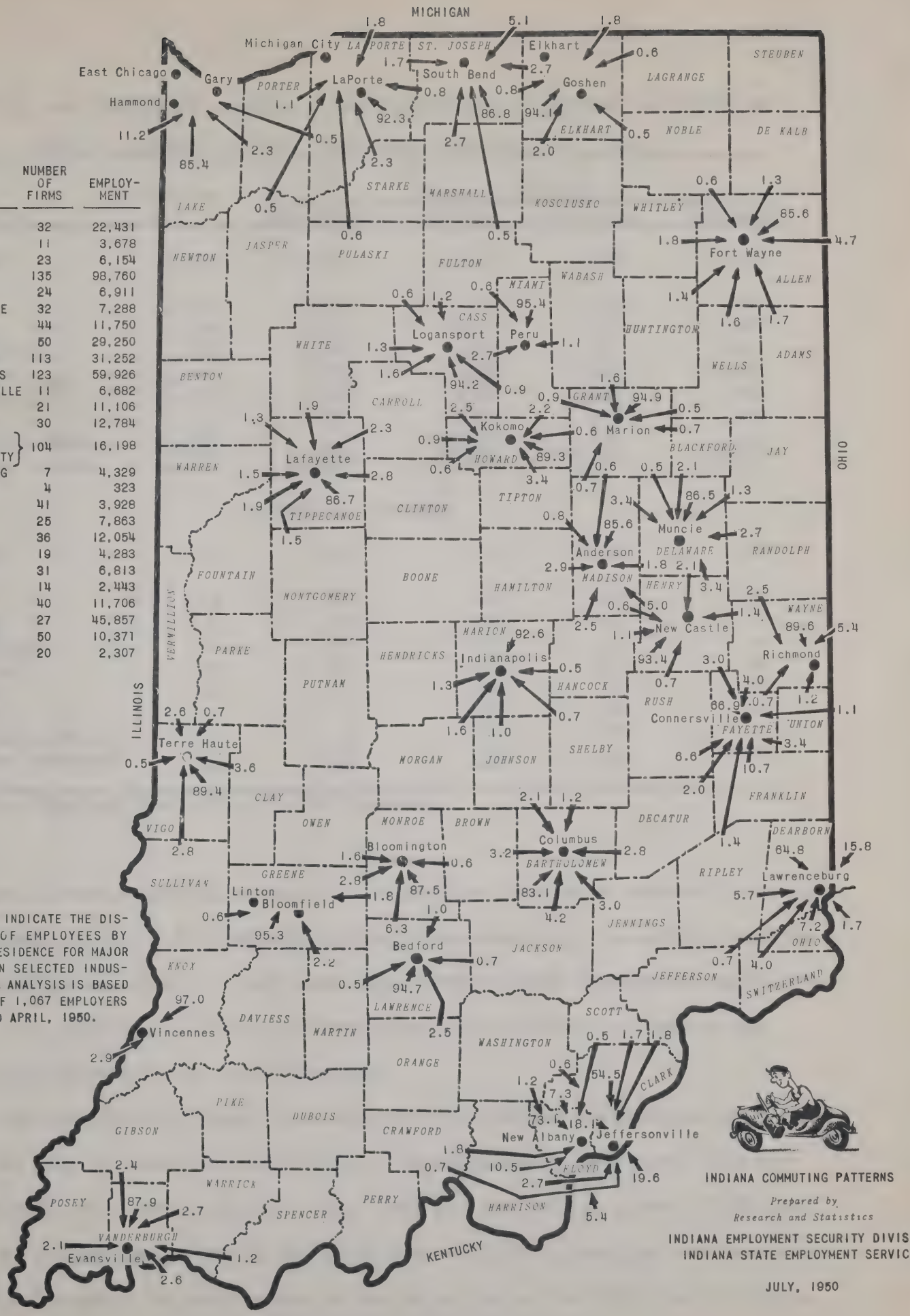
The Council's staff has studied the changes between 1930 and 1950 in employment and population growth in Indiana counties and groups of counties (tentatively considered to be "economic areas"). The 1930 Census is the first one to provide data on the industrial distribution of the labor force in a form reasonably comparable with current tabulations; otherwise, it might have been of even greater interest to have studied a longer period such as 1920 to 1950. The purpose of this study was to show what changes in numbers of jobs of various types had occurred, and to relate this to changes in population in the counties and groups of counties. The question of industrial "balance" was also considered. The jobs were classified as "primary" (agriculture, forestry and fisheries--raw materials industries) "secondary" (manufacturing, mining and construction--processing industries), and "tertiary" (all others--basically service-type industries). Balance and inter-relations among these were also studied. 1/

In the accompanying table, statistics are presented to show the changes that took place, on a net basis, in the Fort Wayne Area during the twenty-year period. Changes are expressed both numerically and in percentage form. In addition to Allen County, other counties tentatively identified as being part of the Fort Wayne economic area (perhaps labor market area would be a more defensible term) are listed, and Area totals shown. 2/

Allen County gained almost 37,000 inhabitants in the twenty years, and about 15,000 total jobs filled by resident workers. Note that resident workers

1/ No report, other than a 4-page article "Employment and Population Growth," has been published on the basis of this research.
2/ The "areas" of Indiana were delineated, primarily, on the basis of studies of commuting to factory jobs. Studies include those of the Employment Security Division (see copy) and the Council. Perhaps Vanwert County in Ohio should be included with Fort Wayne; however, including it would have little effect on the results.

AREA	NUMBER OF FIRMS	EMPLOYMENT
ANDERSON	32	22,431
BEDFORD	11	3,678
BLOOMINGTON	23	6,154
CALUMET	135	98,760
COLUMBUS	24	6,911
CONNERSVILLE	32	7,288
ELKHART	44	11,750
EVANSVILLE	50	29,250
FORT WAYNE	113	31,252
INDIANAPOLIS	123	59,926
JEFFERSONVILLE	11	6,682
KOKOMO	21	11,106
LAFAYETTE	30	12,784
LA PORTE / MICHIGAN CITY	104	16,198
LAWRENCEBURG	7	4,329
LINTON	4	323
LOGANSPORT	41	3,928
MARION	25	7,863
MUNCIE	36	12,054
NEW ALBANY	19	4,283
NEW CASTLE	31	6,813
PERU	14	2,443
RICHMOND	40	11,706
SOUTH BEND	27	45,857
TERRE HAUTE	50	10,371
VINCENNES	20	2,307



PERCENTAGES INDICATE THE DISTRIBUTION OF EMPLOYEES BY COUNTY OF RESIDENCE FOR MAJOR EMPLOYERS IN SELECTED INDUSTRIAL AREAS. ANALYSIS IS BASED ON SURVEY OF 1,067 EMPLOYERS IN MARCH AND APRIL, 1950.

INDIANA COMMUTING PATTERNS

Prepared by
Research and Statistics

INDIANA EMPLOYMENT SECURITY DIVISIO
INDIANA STATE EMPLOYMENT SERVICE

JULY, 1950

COMMUTING PERCENTAGES BELOW 0.5 ARE NOT SHOWN.

NUMERICAL AND PERCENTAGE CHANGES IN POPULATION AND IN RESIDENT EMPLOYED, BY TYPE OF INDUSTRY, 1930 TO 1950, FORT WAYNE ECONOMIC AREA

County	Population	Type of Industry			
		All Groups	Primary	Secondary	Tertiary
Allen	36,979	14,919	-1,211	4,630	11,500
Adams	2,436	1,633	-369	1,154	848
Wells	1,153	1,133	-676	812	997
Huntington	2,327	2,373	-385	1,933	825
Whitley	2,897	1,871	-528	1,545	854
Noble	2,671	1,660	-625	1,506	779
DeKalb	1,112	630	-816	962	484
Paulding (Ohio)	-254	1	-1,045	931	115
Area totals	49,321	24,220	-5,655	13,473	16,402
		Percentage Changes:			
Allen	25	25	-24	16	42
Adams	12	23	-13	59	35
Wells	6	18	-24	57	47
Huntington	8	23	-14	64	18
Whitley	18	32	-20	134	43
Noble	12	21	-20	79	26
DeKalb	4	7	-30	39	12
Paulding (Ohio)	-2	0	-39	147	6
Area averages	17	22	-23	33	35

Source: Adapted from 1930 and 1950 Censuses.

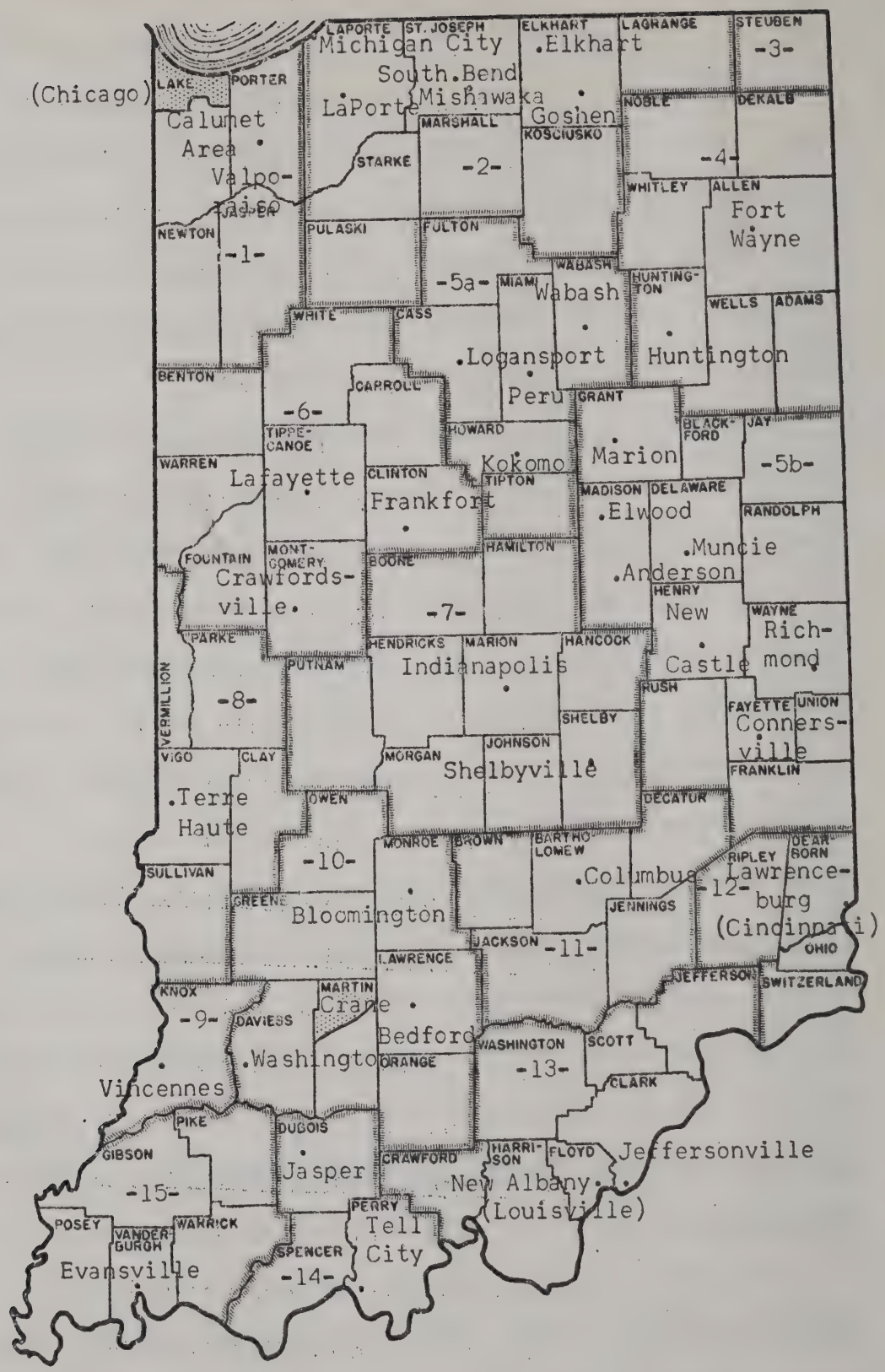
engaged in manufacturing, mining and construction (secondary industry) increased in numbers by only 4,630, whereas tertiary (service-type) increased in numbers by 11,500 in the county. There were 1,211 fewer persons employed in agriculture (etc.) in 1950 than in 1930. The reader may be interested in studying the numerical changes in the other counties.

For the Area as a whole, the total gain in resident employed was 24,220, but the gain in population only 49,321. This amounts to only about 2.03 more inhabitants for every additional job. Over a period of time, about 37-38 percent of all persons in the U. S. are in the labor force, meaning that there are about 2.6 persons for each worker in the labor force. In 1930, the Fort Wayne

Area was almost exactly "average" in this respect; the ratio of persons to jobs was 2.6. However, in 1950 the situation was quite different: there were only about 2.39 residents per job. One can correctly deduce that the Area had a relatively large proportion of its population included in the labor force in 1950. Another deduction, which seems correct, is that the growth in population in the 20-year period was small in proportion to the increase in jobs. Another deduction is that it is probable that the increase in jobs in the Area will eventually serve as an economic base for a rather substantially larger population. Several assumptions are implied.

A study of the percentage changes is of special interest. Note that in Allen County the percentage changes in population and number of resident jobs were identical (25%), as they should tend to be in an area. Jobs in secondary industry, which we usually think of as the prime mover in creating new growth, increased only 16 percent, whereas tertiary (service) jobs gained by 42 percent in the county. Look, however, at the figures for the other counties: jobs in secondary industry, filled by residents of the outlying counties, generally increased by 60 to 130-140 percent, far more than the gain in tertiary jobs in these counties. Allen County residents tended to fill more and more the total array of service-type (white collar to a large extent) jobs. As far as the jobs in secondary industry are concerned, it takes little research to show that a large share of the new jobs (primarily in manufacturing) were located in Allen County, in or around the city of Fort Wayne. The residents of outlying counties, driving to work at Fort Wayne, tended to fill more and more of the factory jobs. Decline of farm jobs is a crucial balancing factor.

Unless this general pattern is understood, the figures for the individual counties would make little sense. When the counties are combined there is some semblance of order. If a more nearly "true" labor market or economic area could be delineated, the orderliness would, no doubt, increase.



SUGGESTED DIVISION INTO ECONOMIC AREAS--FOLLOWING COUNTY LINES
(Showing cities of 10,000 or more and Lawrenceburg, Jasper & Tell City)

INDIANA ECONOMIC COUNCIL

The final row of Area averages is of interest in several respects. On a percentage basis, jobholders in the Area increased by 22 percent and population only 17 percent. A 22 percent gain in population would have added about 16,000 more persons in the Area. The gain in tertiary jobs slightly exceeded gain in secondary jobs.

Finally, how do the average changes in the Area compare with those of Indiana and of other areas in the state? Statistics in the following table give tentative answers.

Population gain in the Fort Wayne Area was smaller than the average for the state, even though the gain in jobs was relatively more. Agricultural jobs declined at a slower rate in the Area than in the State--note that the percentage decline, 1930-50, was generally less in the northern counties than in the southern. Percentage gains in secondary and tertiary jobs happen to have been the same in the Fort Wayne Area and in Indiana. In both the State and the Area, there was a gain of 1.2 tertiary-type workers in relation to every secondary-type worker.

PERCENTAGE CHANGE IN POPULATION AND IN RESIDENT EMPLOYED, BY TYPE OF INDUSTRY, 1930 TO 1950, INDIANA AND SUGGESTED ECONOMIC AREAS

Area	Population	Type of Industry: All Industry	Primary	Secondary	Tertiary
Total, Indiana	21%	21%	-30%	33%	35%
4 Fort Wayne	17	22	-23	33	35
1 Calumet (Chicago)	42	40	-19	40	51
2 South Bend	25	28	-21	39	37
5a N. Gas Belt	10	15	-21	45	15
5b S. Gas Belt	22	22	-30	37	34
6 Lafayette	20	20	-25	54	38
7 Indianapolis	27	23	-32	28	32
8 Terre Haute	-3	-6	-38	-20	19
9 Vincennes	-1	-4	-42	-10	27
10 Bloomington	6	6	-42	11	39
11 Columbus	26	22	-35	93	35
12 Lawrenceburg (Cincinnati)	9	7	-35	78	24
13 New Albany (Louisville)	25	22	-27	44	50
14 Jasper-Tell City	6	13	-29	50	39
15 Evansville	27	23	-45	38	40

In the perspective supplied by this tabulation, one can see that the Fort Wayne Area has had an "average" growth. Some 7-8 out of the areas outdistanced it during the period 1930 to 1950.

Perhaps the highlight of this sub-section is the suggestion that the Fort Wayne Area developed an economic base for a potentially larger population during the 1930 to 1950 period. Apart from "normal" trends in the 1950's, there will be no way of even partially substantiating this. Unpublished (at this time) estimates of the State Board of Health do indicate a sizable growth in Allen County between April 1950 and July 1954. Recovery of factory employment to 1951-53 levels should spark a more than average rate of population growth, with associated gains in economic activity.

MANUFACTURING EMPLOYMENT: TRENDS AND OUTLOOK

A. Number of Wage Earners in Manufacturing, 1919 to 1947

Census of Manufactures counts of wage earners in manufacturing, in specified census years, are given in the accompanying table and charts. The Fort Wayne Standard Metropolitan Area (Allen Co.) is compared with other metropolitan areas in the Tri-State Region and with Indiana, the East North Central States, and the United States.

Wage earners in the Fort Wayne Area increased from 16,509 in 1919 (first year, since 1800's, counties were identified in census reports) to 23,306 in 1929. This figure was not reached again, we may be certain, until some time after World War II began--at least, it is very doubtful that there was another year as "good" as 1937 in Fort Wayne between 1929 and the early 1940's, and the number of wage earners employed in 1937 was less than 20,000, average for the year. In 1947, there were more than 30,000 wage earners.

The bottom half of the table presents a rather striking picture, and one not anticipated by the researcher. Notice that among the twelve metropolitan areas, only South Bend had a larger relative gain in employment between 1919 and 1929 than Fort Wayne underwent. (Indianapolis had fewer wage earners in 1929, and so did the U. S. as a whole, but Indiana as a whole experienced a gain of 38.3 percent.)

From 1929 to 1935, Fort Wayne factory employment dipped 35.6 percent, giving Fort Wayne the dubious distinction of experiencing the greatest decline, over-all, among the areas listed. The 1935-37 period witnessed considerable gains. Fort Wayne fell back farther, percentage-wise, than all the areas except Toledo between 1937 and 1939.

The final highlight of the table is that among all the areas, Fort Wayne experienced the greatest percentage gain in factory workers between 1939 and

WAGE EARNERS IN MANUFACTURING, FORT WAYNE AND SELECTED AREAS, 1919-1947

Metropolitan Area	1919	1929	1935	1937	1939	1947
Fort Wayne (Allen)	16,509	23,306	15,015	19,181	14,133	30,085
Muncie (Delaware)	7,822	10,720	9,040	12,505	10,464	15,718
Indianapolis (Marion)	52,142	51,117	36,828	41,254	38,705	73,168
South Bend (St. Joseph)	19,957	31,400	20,873	24,503	20,819	37,158
Evansville (Vanderburgh)	14,475	15,917	13,221	17,744	13,822	23,845
Lake County	41,233	50,328	47,884	65,632	58,036	78,272
Michigan:						
Flint (Genessee)	24,884	32,001	36,547	42,649	33,072	47,887
Kalamazoo (Kalamazoo)	10,228	12,145	10,318	12,396	11,016	17,058
Grand Rapids (Kent)	25,640	30,979	21,214	28,249	23,882	41,961
Jackson (Jackson)	10,073	11,375	7,599	8,723	6,918	13,652
Ohio:						
Lima (Allen)	7,621	6,588	4,711	6,430	6,135	11,772
Toledo (Lucas)	44,713	53,996	37,917	41,716	30,542	56,730
Indiana (thous.)	228	315	248	313	275	457
E. N. Central States(thous.)	2,387	2,542	2,082	2,571	2,180	3,565
United States (thous.)	8,465	8,370	7,204	8,569	7,808	11,916

PERCENT CHANGE

	1919-1929	1929-35	1935-37	1937-39	1939-47	1919-47
Fort Wayne (Allen)	41.2	-35.6	27.7	-26.3	112.9	82.2
Muncie (Delaware)	37.0	-15.7	38.3	-16.3	50.2	100.9
Indianapolis (Marion)	-2.0	-27.9	12.0	-6.2	89.0	40.3
South Bend (St. Joseph)	57.3	-33.5	17.4	-15.0	78.5	86.2
Evansville (Vanderburgh)	9.9	-16.9	34.2	-22.1	72.5	64.7
Lake County	22.1	-4.9	37.1	-11.6	34.9	89.8
Michigan:						
Flint (Genessee)	28.6	14.2	16.7	-22.5	44.8	92.4
Kalamazoo (Kalamazoo)	18.7	-15.1	20.1	-11.1	54.8	66.8
Grand Rapids (Kent)	20.8	-31.5	33.2	-15.5	75.7	63.7
Jackson (Jackson)	12.9	-33.2	14.8	-20.7	97.3	35.5
Ohio:						
Lima (Allen)	-13.6	-28.5	36.5	-4.6	91.9	54.5
Toledo (Lucas)	20.8	-29.8	10.0	-27.0	85.7	26.9
Indiana	38.3	-21.1	26.2	-12.2	66.2	101.1
E.N. Central States	6.5	-18.1	23.5	-15.2	63.5	49.4
United States	-1.1	-13.9	18.9	-8.9	52.6	40.8

Source: Censuses of Manufactures (various summaries).

1947. For the period 1919 to 1947, the gain of 82.2 percent gives Fort Wayne fifth rank among the twelve metropolitan-type areas in rate of growth in this important economic variable. 1/

The charts (Figures 6 and 7) give a vivid picture of developments from one census year to the next--unfortunately, many years are skipped. Some conclusions one might draw more readily from the charts than from the table are these:

1) Manufacturing centers in this general region have had about the same type of experience, over-all; that is, employment goes up and down in the same general pattern in one area as in another, in response to general nation-wide economic conditions.

2) There are apparent differences in degree of volatility, and these should not be ignored even though item 1 seems more basic. The United States as a whole, as would be expected, experienced much lesser ups and downs than most the individual metropolitan areas. Of the areas, Kalamazoo appears to have been the most stable.

3) Flint, Michigan, was the only area able to buck the 1929-35 decline (General Motors expansion locally), but Lake County almost succeeded. Lima, Ohio and Indianapolis were the only areas that fell backward in the 1919-29 period.

4) As compared with movements in other areas, the industrial dip in the 1937-39 period was more noticeable in Fort Wayne than the 1929-35 decline was. Note also that Flint did not escape in the 1937-39 period. A careful study of Fort Wayne's manufactures in relation to the 1937-39 economic situation might still be relevant for an understanding of Fort Wayne's economy.

1/ It should be recognized that the comparative level of employment in the base year, 1919, is an important consideration in this calculation. Our data do not reveal how normal or abnormal 1919 was in each locality, in terms of longer-term trends.

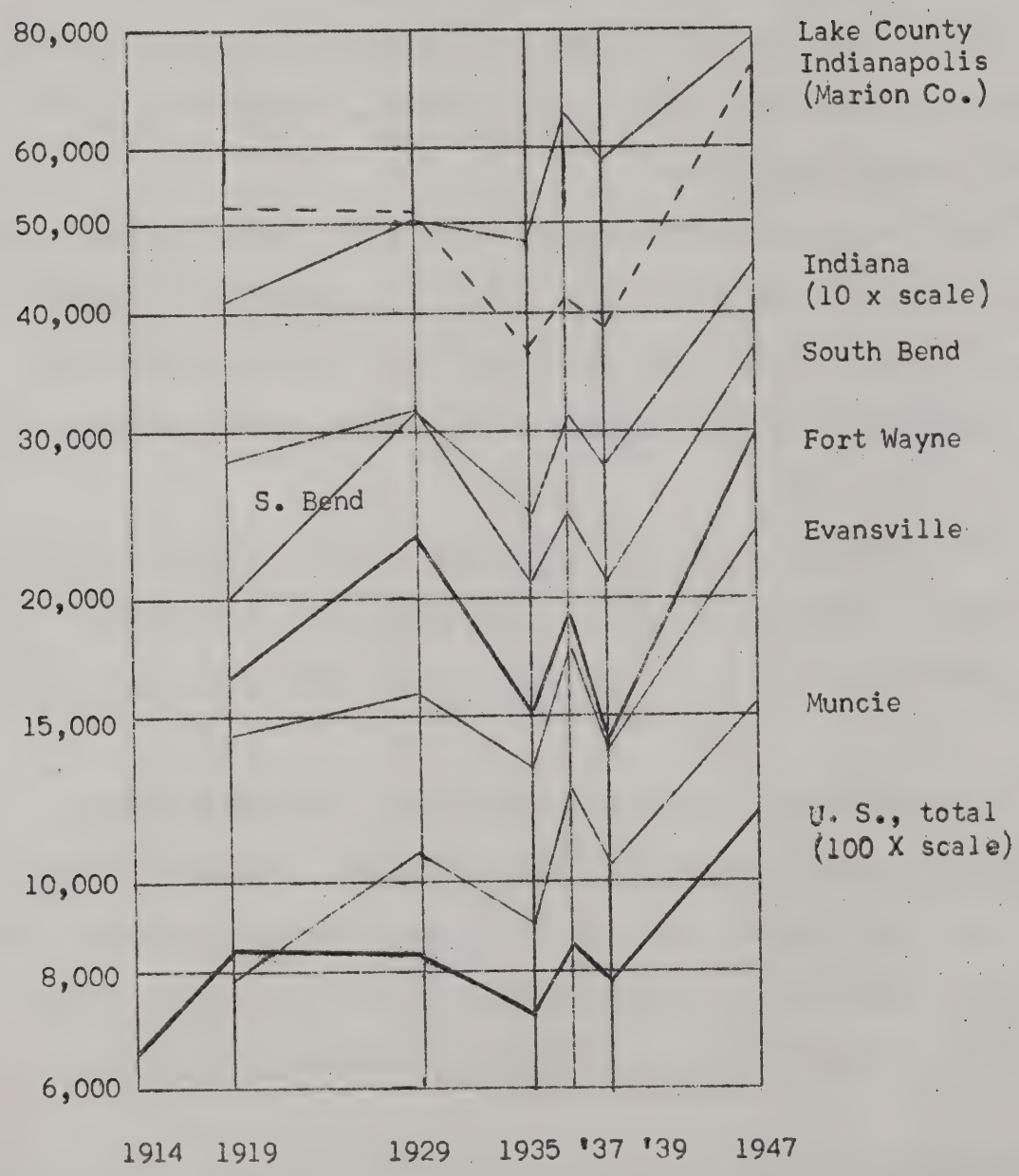


Figure 6

WAGE EARNERS IN MANUFACTURING, STANDARD METROPOLITAN AREAS, INDIANA, AND UNITED STATES

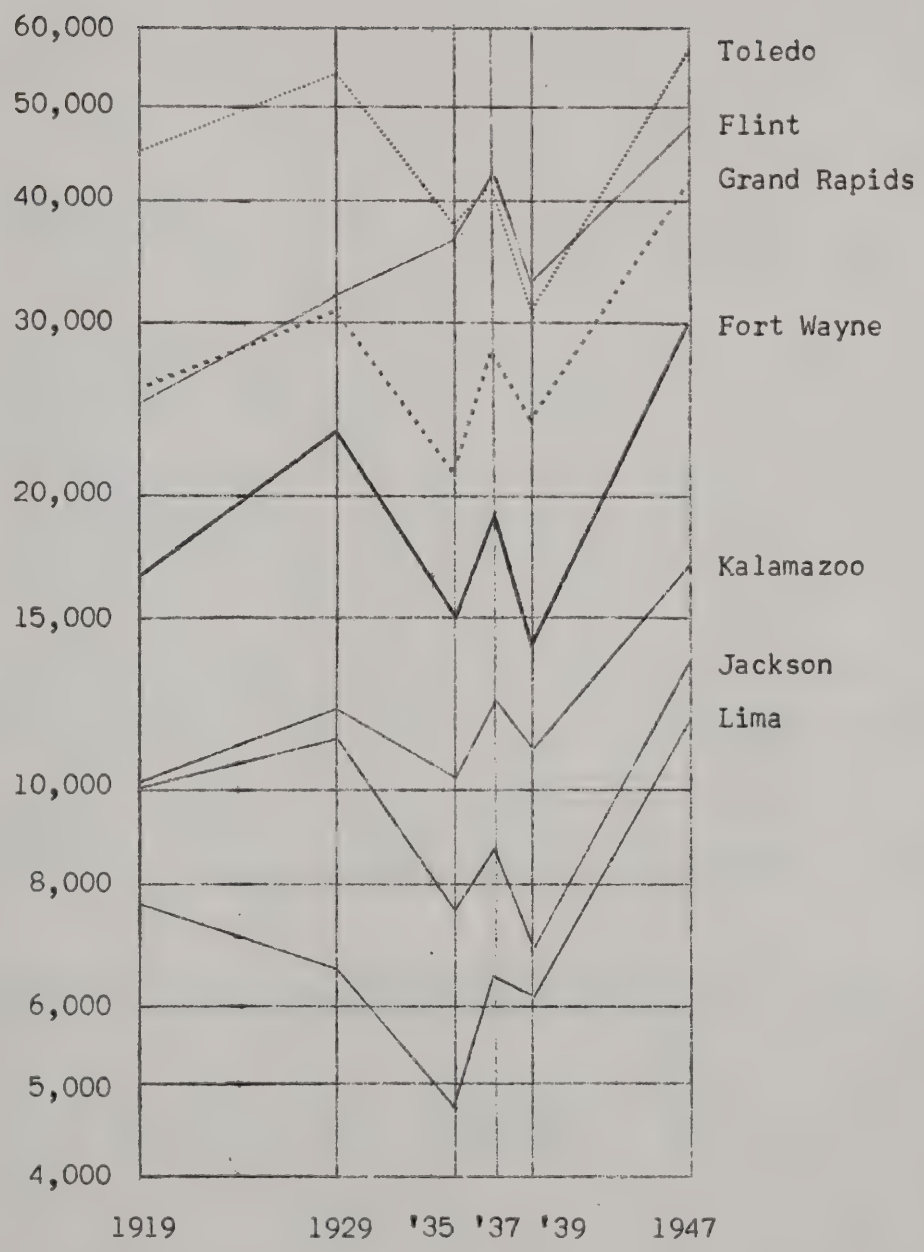


Figure 7

WAGE EARNERS IN MANUFACTURING, FORT WAYNE AND STANDARD METROPOLITAN AREAS NEARBY IN MICHIGAN AND OHIO

B. Changes In Manufacturing Employment, By Type of Industry, 1947 to 1951

There are no data on Fort Wayne Area factory employment, by type of industry, previous to the 1947 Census of Manufactures. The 1947 statistics are presented in the accompanying table, together with 1951 (latest available) figures taken from the reports of the Bureau of Old Age and Survivors Insurance. Except for the fact that the 1951 figures are for mid-March and the Census statistics are average for the year, the two sets of data should be reasonably comparable. 1/ They provide a rather interesting record of changes during this significant period.

Even recognizing that the two sources of data are not strictly comparable, we are inclined to believe that employment in food industries really declined between 1947 and 1951. (1947 BOASI data substantiate this.) The same may be said for textiles. Farther down the list, note the probable decline in importance of fabricated metals; here, however, the problems of identical classification from one source to another become very great.

The most important loss indicated is, of course, in machinery (exc. electrical). A decline of some 2,500 in service and household machines (in this case, pumps of various kinds and household appliances, we understand) is indicated. There is also an apparent loss of 1,000 employees in electrical machinery.

Manufacturing groups accounting for most of the over-all gain between 1947 and 1951 were transportation equipment and rubber products. (BOASI data for 1947 tend to substantiate these comparisons.) It is apparent that the growth of the rubber products group is a significant current development.

1/ In view of the fact that Bureau of Old Age and Survivors Insurance statistics were published for Mid-March 1947, it might seem unusual to compare 1951 BOASI figures with Census of Manufactures data for 1947 rather than use 1947 BOASI statistics. Actually, the two sources used are considered to be much more comparable, except possibly for seasonal-type industries. By 1951, BOASI procedures had been carefully condinated with Census Bureau operations.

TOTAL EMPLOYMENT IN MANUFACTURING IN ALLEN COUNTY, 1947 AND 1951

Industry Group	Number (average for the year), 1947	Number Mid-March, 1951
All industries	38,972	41,213
Food and kindred products	3,176	2,644
Meat products	639	476
Dairy products	396	343
Bakery products	855	797
Beverages	850	598
Tobacco manufactures	44	3*
Textile mill products	1,302	926
Apparel and related products	857	955
Lumber and products, except furniture	220	208
Furniture and fixtures	296	680
Paper and allied products	335	396
Printing and publishing industries	816	932
Commercial printing	249	251
Chemicals and allied products	226	272
Petroleum and coal products	9	20*
Rubber products	220*	1,804
Leather and leather products	10*	18*
Stone, clay, and glass products	66	43
Primary metal industries	2,866	2,930
Fabricated metal products	609	336
Metal stamping and coating	190	139
Machinery (except electrical)	7,530	5,289
Metalworking machinery	332	416
Special industry machinery, n.e.c.	159	123
Service and household machines	5,888	3,231
Electrical machinery	13,044	12,010
Transportation equipment	7,092	9,173
Instruments and related products	27*	20
Miscellaneous manufactures	227	123
Administrative & auxiliary	**	2,441

* Estimated.
** Not segregated in 1947 Census.
Sources: 1947 Census of Manufactures and U. S. Dept. of Commerce, County Business Patterns, First Quarter 1951, Part 4.

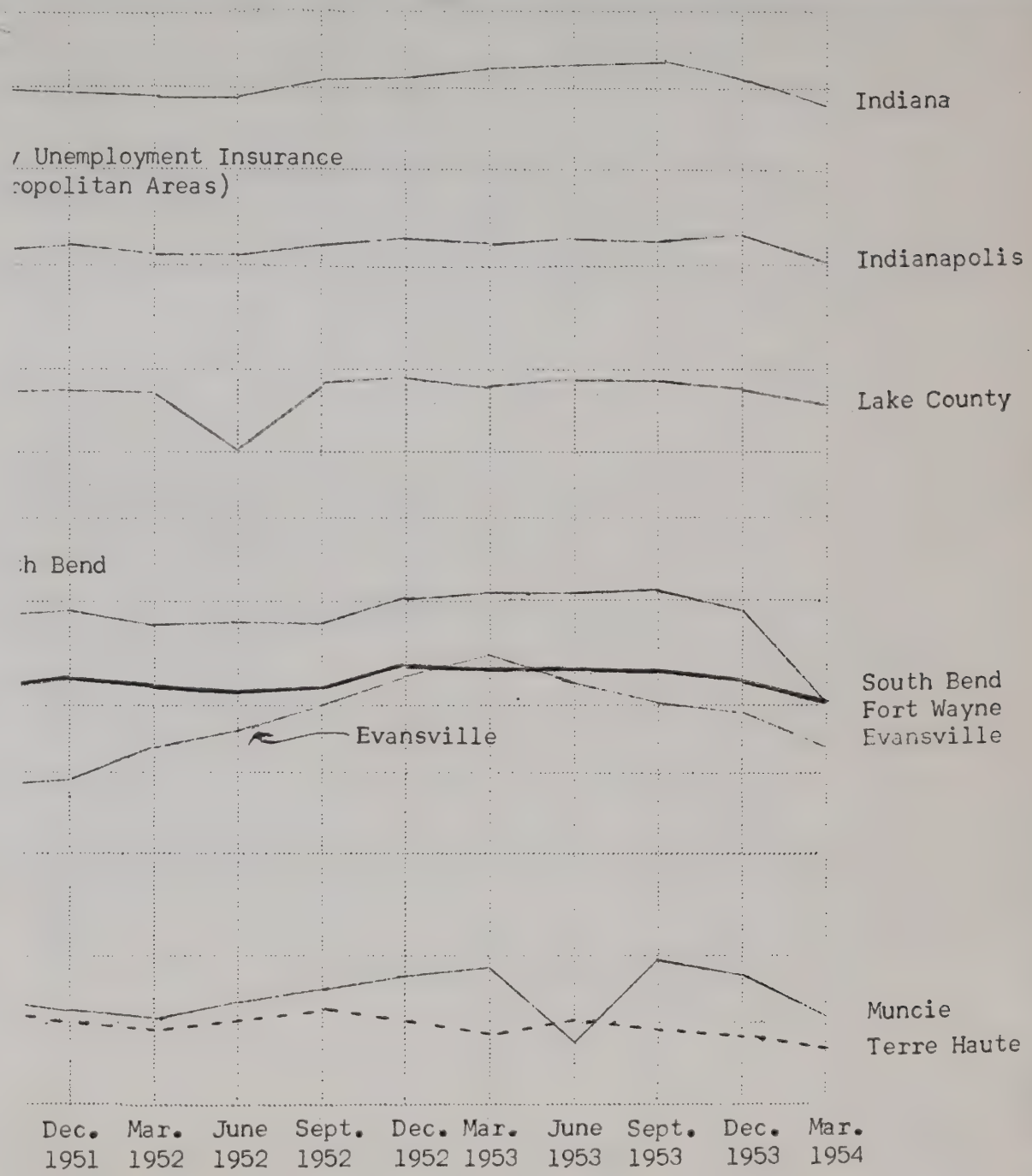
C. Current Trends in Employment of Workers, by Industry, Fort Wayne and Other Metropolitan Areas of Indiana

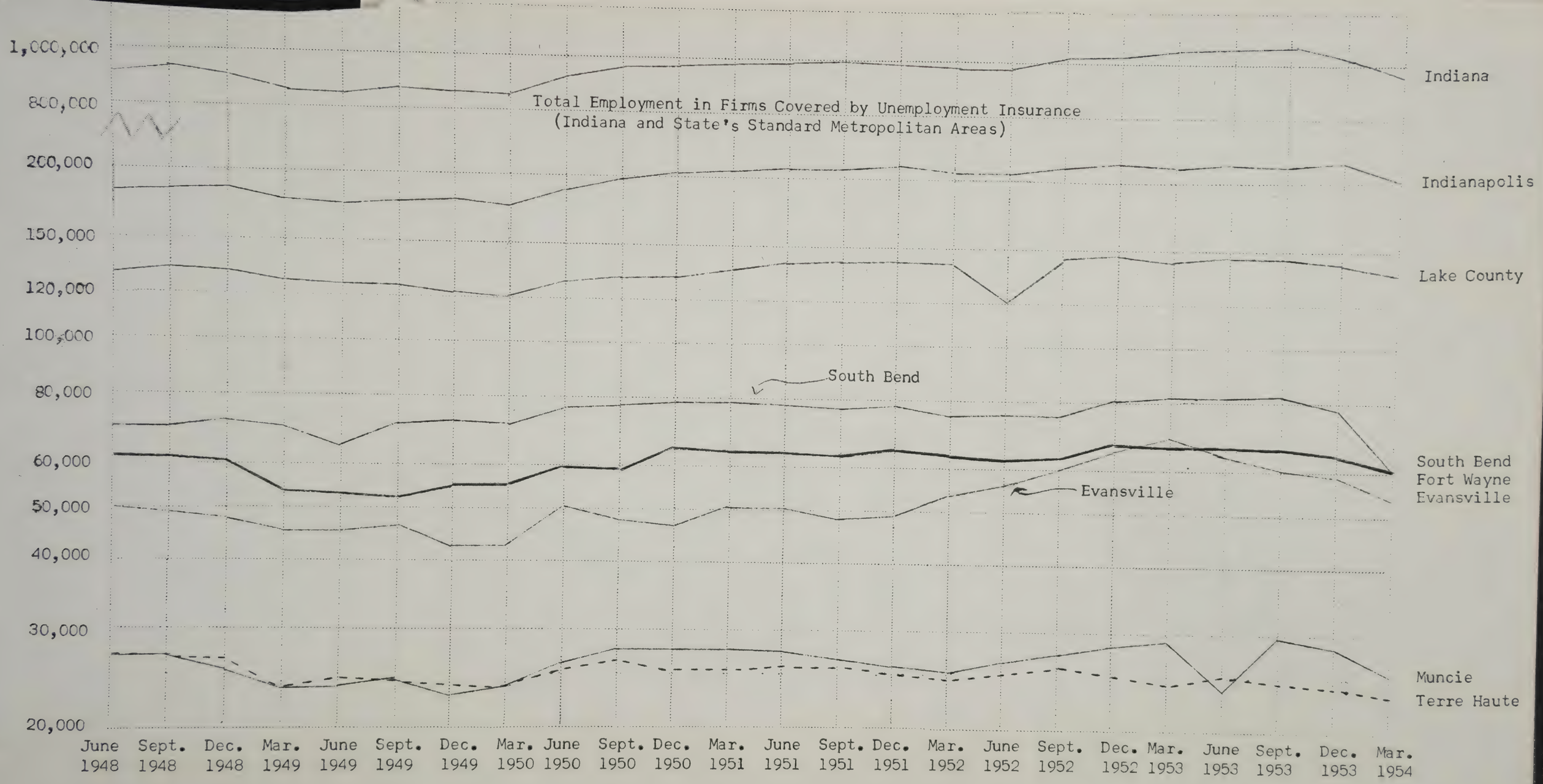
For a picture of changes in employment that have occurred over the last few years one can turn to the employment figures of the Indiana Employment Security Division. The data we shall use include workers covered by the unemployment insurance program (generally, persons employed by business and industrial firms with 8 or more employees). The coverage is believed to be adequate for the purposes of this analysis--i.e., 100-percent coverage would yield the same general conclusions, we feel certain. 1/

The accompanying charts show total covered employment of all types and covered employment in manufacturing industries. By plotting the numbers on graph paper with a logarithmic vertical scale a conservative picture of change is afforded, which makes a gain from 10,000 to 20,000 in a small area look as impressive as one from 100,000 to 200,000 in a large area.

In the Indianapolis Standard Metropolitan Area, total covered employment fell below December 1948 levels until about the middle of 1950; except for a small dip in 1952, it tended upward to December of 1953, and then dropped in the first quarter of 1954. Lake County did not gain in employment to the extent Marion did after March of 1950. After the petroleum-steel strikes of 1952, Lake County moved upward, above Marion (Indianapolis). The downturn in Lake began before December of 1953.

1/ The Employment Security Division began to prepare estimates of total employment by industrial classifications, for the five largest metropolitan areas (Indianapolis, Lake County, South Bend, Fort Wayne and Evansville) during the 1949-50 period. Its routine administrative statistics on covered employment were not adequate for some agencies and businesses that utilize such information. We used the covered employment figures because they are available for several additional quarters (they appear to be reasonably valid and reliable beginning early in 1948) and because this series includes Muncie and Terre Haute. Our concern here is with trends, mainly, and not with the absolute levels of employment in the various industry groups. In industry groups of the type characterized by small firms the covered employment figures may be unreliable to show trends, but this should not apply to manufacturing.


Indiana
/ Unemployment Insurance
:opolitan Areas)
Indianapolis
Lake County
:h Bend
South Bend
Fort Wayne
Evansville
Evansville
Muncie
Terre Haute
Dec. 1951
Mar. 1952
June 1952
Sept. 1952
Dec. 1952
Mar. 1953
June 1953
Sept. 1953
Dec. 1953
Mar. 1954


Total Employment in Firms Covered by Unemployment Insurance
(Indiana and State's Standard Metropolitan Areas)
1,000,000
800,000
200,000
150,000
120,000
100,000
80,000
60,000
50,000
40,000
30,000
20,000
Indiana
Indianapolis
Lake County
South Bend
South Bend
Fort Wayne
Evansville
Evansville
Muncie
Terre Haute
June 1948
Sept. 1948
Dec. 1948
Mar. 1949
June 1949
Sept. 1949
Dec. 1949
Mar. 1950
June 1950
Sept. 1950
Dec. 1950
Mar. 1951
June 1951
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Mar. 1952
June 1952
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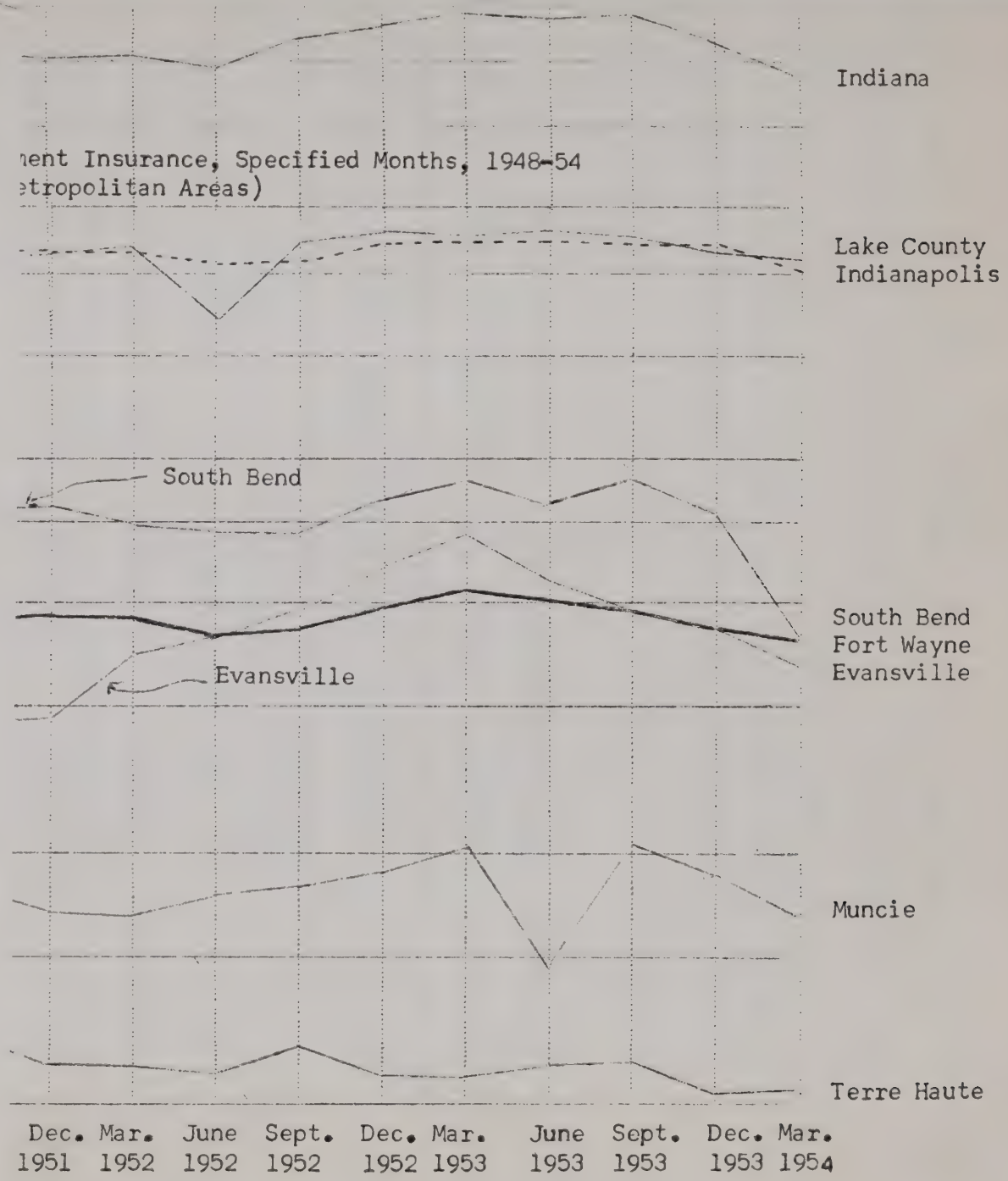
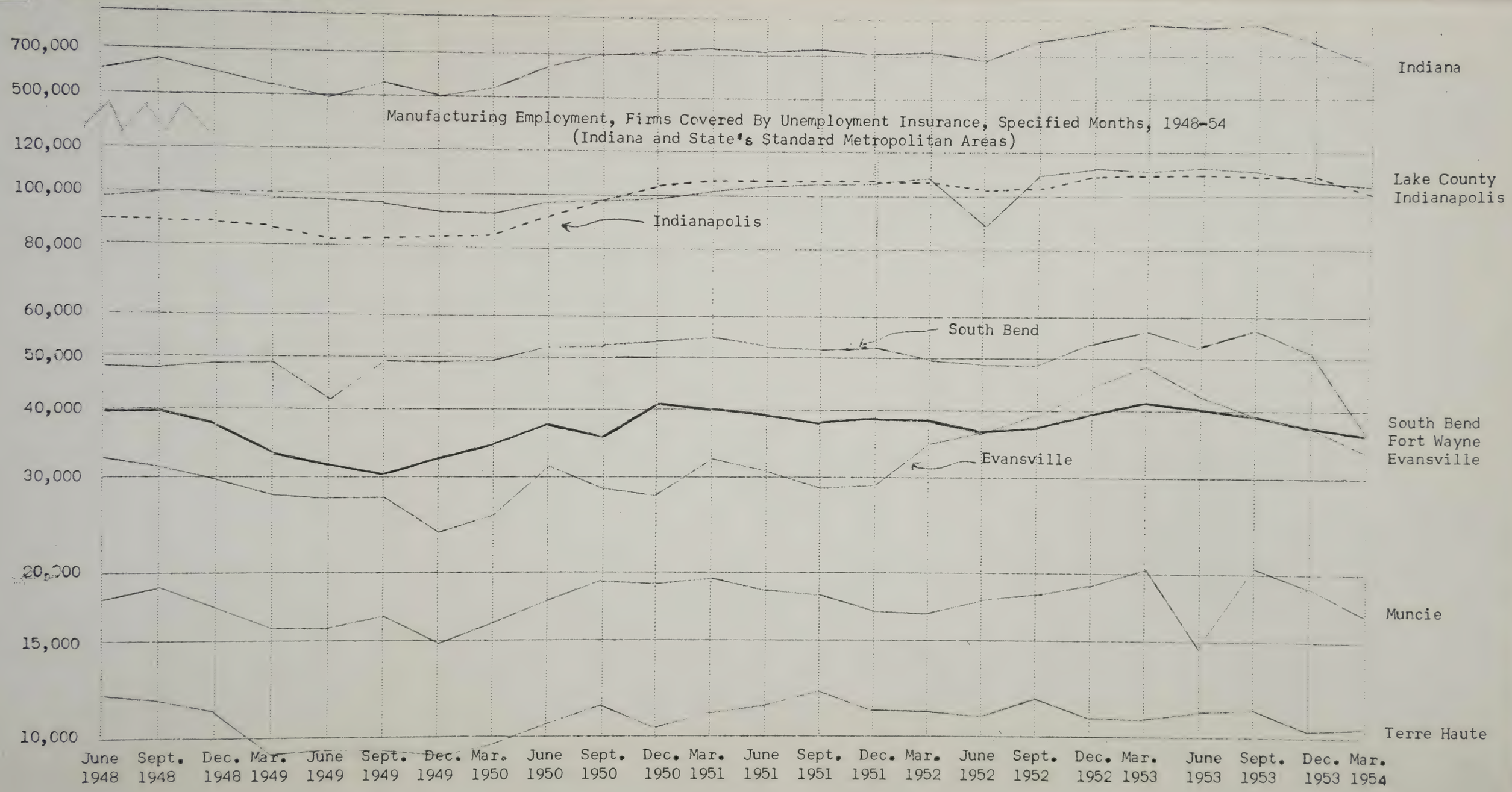
Mar. 1953
June 1953
Sept. 1953
Dec. 1953
Mar. 1954


Indiana
ment Insurance, Specified Months, 1948-54
etropolitan Areas)
Lake County
Indianapolis
South Bend
South Bend
Fort Wayne
Evansville
Evansville
Muncie
Terre Haute
Dec. 1951
Mar. 1952
June 1952
Sept. 1952
Dec. 1952
Mar. 1953
June 1953
Sept. 1953
Dec. 1953
Mar. 1954


Manufacturing Employment, Firms Covered By Unemployment Insurance, Specified Months, 1948-54
(Indiana and State's Standard Metropolitan Areas)
700,000
500,000
120,000
100,000
80,000
60,000
50,000
40,000
30,000
20,000
15,000
10,000
Indiana
Lake County
Indianapolis
South Bend
Fort Wayne
Evansville
Muncie
Terre Haute
Indianapolis
South Bend
Evansville
June 1948
Sept. 1948
Dec. 1948
Mar. 1949
June 1949
Sept. 1949
Dec. 1949
Mar. 1950
June 1950
Sept. 1950
Dec. 1950
Mar. 1951
June 1951
Sept. 1951
Dec. 1951
Mar. 1952
June 1952
Sept. 1952
Dec. 1952
Mar. 1953
June 1953
Sept. 1953
Dec. 1953
Mar. 1954

South Bend, Fort Wayne, and Evansville are the middle three areas; throughout most of the period they have ranked in size in that order. Trend lines here seem to be more varied. South Bend (St. Joseph County) gained to December 1948, had a sharp decline in mid-1949 but recovered rapidly--the auto business held up well in the '49 recession. The Area tended downward after December of 1950, then began to gain employment late in 1952, peaked in 1953 at a high level, and dropped abruptly.

Fort Wayne's employment did not surge upward as much as covered employment did in South Bend or Evansville. The decline through the 1949 recession was long in time and substantial in numbers. With the recovery in 1950, the Fort Wayne Area made a rather sizable gain. The decline to March '54 from the 1953 peak was less noticeable in Fort Wayne than in most areas.

Vanderburg County (Evansville Area) had a substantially smaller covered employment in 1948 than the South Bend-Fort Wayne Areas, but shot upward until it passed Fort Wayne in March of 1953. Part of the decline in the December 1949-March 1950 period was due to labor disputes. Large defense contracts (especially for aircraft parts) explain part of the exceptional gains after December of 1951. The decline began here in 1953, and has been deep.

The Terre Haute and Muncie Areas have total covered employment of about the same magnitude. Trends were surprisingly similar through the 1949 recession, but Muncie gained much more after the recession, slumped in 1951 and early 1952, then gained abruptly (except for a strike in June 1953) before it began to lose employment late in 1953. The Terre Haute Area has never equaled its 1948 covered employment at any time since then; it is the only area with a slight downward tendency over recent years. On the other hand, the decline in the first quarter of 1954 is hardly noticeable.

Inspection of the second chart showing trends in covered employment in manufacturing reveals a greater tendency to experience ups and downs in this

type of employment than in total employment. Also, the trends in manufacturing are seen to be in the same direction as those in total employment--manufacturing is more than half of total covered employment in most areas. The reader may wish to compare trends in the seven areas, as has been done above. Recall that abrupt changes for one period are generally due to strikes.

High and Low Points in Employment

In the accompanying table, the high and low points in covered employment are emphasized. Index numbers (or relatives), with employment in June of 1948 as 100%, are given to provide a direct, mathematical expression of the levels in the seven standard metropolitan areas. The months during which the low and high points were experienced are given.

The Fort Wayne Area, with about 85 percent as many covered employed in September of 1949 as June of 1948 appears to have had the largest (percentage-wise) dip during the '49 recession, and Indianapolis appears to have had the smallest. As to the high point, the Evansville Area was in a class by itself, attaining a gain of about 39 percent over the June 1948 level. Fort Wayne exceeded its 1948 levels by 8 percent during its June 1953 peak. Indiana as a whole had a low point 93 percent of the base period, and a high point about 19 percent above the base.

As of March 1954, the South Bend and Terre Haute Areas were lowest in employment relative to 1948. Evansville (despite an abrupt dip) was still about 8 percent above June 1948. Lake County and the Indianapolis Area (Marion County) show a generally more even and stronger position throughout.

Covered manufacturing employment is singled out for emphasis in the second table. The pattern is like that for the total employment--since manufacturing is generally more than 50 percent of the total. However, it is apparent that the declines during the '49 recession were greater in the manufacturing segment, and the rise and fall after June of 1950 was largely

TOTAL COVERED EMPLOYMENT AT SPECIFIED PERIODS,
INDIANA STANDARD METROPOLITAN AREAS

Area	June 1948	Low Point before June 1950	High Point after June 1950	March 1954
Fort Wayne	61,596	52,166 Sept. '49	66,324 June '53	60,655
Muncie	26,060	22,918 Dec. '49	29,815 Sept. '53	25,455
Lake County	130,932	121,229 Mar. '50	147,213 Dec. '52	135,702
Indianapolis	183,645	175,684 Mar. '50	216,623 Dec. '53	201,201
South Bend	69,220	64,082 June '49	82,440 Sept. '53	60,666
Evansville	49,431	42,250 Dec. '49	68,510 Mar. '53	53,535
Terre Haute	26,629	23,509 Mar. '49	26,380 Sept. '50	23,348
Indiana, total	904,221	843,684 June '49	1,074,628 Sept. '53	948,809
		Index: June 1948 = 100.0		
Fort Wayne	100.0	84.7	107.6	98.4
Muncie	100.0	87.9	114.4	97.7
Lake County	100.0	92.6	112.4	103.6
Indianapolis	100.0	95.7	118.0	110.0
South Bend	100.0	92.5	119.0	87.6
Evansville	100.0	85.5	138.6	108.3
Terre Haute	100.0	88.3	99.1	87.7
Indiana, total	100.0	93.2	118.7	104.8

Source: Adapted from reports of the Indiana Employment Security Division.

COVERED MANUFACTURING EMPLOYMENT AT SPECIFIED PERIODS, INDIANA STANDARD METROPOLITAN AREAS

Area	June 1948	Low Point before June 1950	High Point after June 1950	March 1954
Fort Wayne	39,287	30,743 Sept. '49	41,357 Mar. '53	36,107
Muncie	17,985	14,988 Dec. '49	20,619 Sept. '53	16,782
Lake County	98,179	92,643 Mar. '50	111,710 June '53	102,721
Indianapolis	90,084	83,035 June '49	109,817 June '53	100,534
South Bend	47,654	41,958 June '49	56,484 Sept. '53	36,205
Evansville	32,066	23,792 Dec. '49	48,316 Mar. '53	33,827
Terre Haute	11,876	9,228 Mar. '49	12,011 Sept. '51	10,749
Indiana, total	550,711	499,660 June '49	680,399 Mar. '53	576,311
		Index: June 1948 = 100.0		
Fort Wayne	100.0	78.2	105.3	91.9
Muncie	100.0	83.3	114.6	93.3
Lake County	100.0	94.3	113.7	104.6
Indianapolis	100.0	92.2	121.9	111.6
South Bend	100.0	88.0	118.5	76.0
Evansville	100.0	74.2	150.6	105.5
Terre Haute	100.0	77.7	101.1	90.5
Indiana, total	100.0	90.7	123.5	104.6

Source: Adapted from reports of the Indiana Employment Security Division.

concentrated in manufacturing. There are some exceptions; for example, manufacturing employment dropped comparatively little in Lake County during the '49 dip, and manufacturing employment had fallen off less, relatively, in Terre Haute (March '54 vs. June '48) than had total employment.

Figures in the final column reveal that, comparatively, the lowest level of manufacturing employment by March of 1954 was in the South Bend Area. Fort Wayne was among the group with an index below 100. Evansville dropped from an index of 150.6 to 105.5, but this was still at a comparatively high level from a longer-term point of view. In March of 1954, Indiana was still about 4½ percent above June '48.

Changes in Covered Employment within Manufacturing Groups

Which types of manufactures have accounted for the rather striking variations shown above? Partial answers are given in the accompanying table; detailed data to provide complete answers are not readily available.

In the Fort Wayne Area, the comparatively unfavorable showing during '49 was shared by all groups. Transportation equipment has been most cyclical, it appears. The electrical machinery group seems to have been a relatively strong segment. The machinery (exc. electrical) group gives evidence of absolute decline (recall preceding section).

In Lake County, strength has been predominant, but fabricated metals have made greater relative gains than primary metals.

In the Indianapolis Area, covered employment in fabricated metals plants has, in general, slipped behind 1948 levels. Nonelectrical machinery dipped sharply in the 1949 recession, and has not reached 1948 levels since then. Electrical machinery reacted very differently: it experienced a small dip by mid-1948, but recovered and reached levels some 187% above 1948 before a mild decline in 1953-54. One new factory (Western Electric) had much to do with the large gain in employment after 1950. Transportation equipment has been on

COVERED EMPLOYMENT IN MANUFACTURING GROUPS,
INDIANA STANDARD METROPOLITAN AREAS

Area	June 1948	Low Point before June 1950	High Point after June 1950	March 1954
Fort Wayne:				
Machinery (exc. elec.)	4,672	3,315 June '49	4,546 June '51	3,669
Electrical Machinery	14,525	12,040 June '49	16,760 Dec. '50	14,254
Transportation Equipment	8,542	6,054 Sept. '49	10,674 Mar. '53	7,369
All other	11,548	8,960 Dec. '49	11,966 June '53	10,815
	Index: June 1948 = 100.0			
Machinery (exc. elec.)	100.0	70.9	97.2	78.5
Electrical Machinery	100.0	82.9	115.4	98.1
Transportation Equipment	100.0	70.8	124.8	86.2
All other	100.0	77.6	103.6	93.6
Lake County:				
Products, Petroleum & Coal	13,925	11,858 Mar. '50	12,623 Sept. '51	11,693
Primary Metals	57,828	56,721 Mar. '50	69,106 Dec. '52	63,165
Fabricated Metals	6,227	5,682 Dec. '49	8,217 June '53	7,042
All other	20,199	17,299 Dec. '49	23,756 Sept. '53	20,821
	Index			
Products, Petroleum & Coal	100.0	85.2	90.6	84.0
Primary Metals	100.0	98.1	119.5	109.2
Fabricated Metals	100.0	91.1	131.9	113.0
All other	100.0	85.6	117.6	103.1
Indianapolis:				
Food & Kindred Products	10,922	9,819 Mar. '49	11,535 Sept. '51	9,474
Chemical & Allied Products	7,815	7,757 Mar. '50	8,559 Mar. '54	8,559
Fabricated Metals	7,197	5,727 Mar. '50	7,459 June '53	5,792
Machinery (exc. elec.)	14,811	9,662 Dec. '49	13,397 Mar. '52	11,902
Electrical Machinery	7,065	6,650 Sept. '48	20,340 Mar. '53	16,233
Transportation Equipment	17,108	16,758 Sept. '49	28,978 Dec. '53	26,908
All other	25,166	21,344 Mar. '50	25,245 Sept. '50	21,666
	Index			
Food & Kindred Products	100.0	90.9	105.6	86.7
Chemical & Allied Products	100.0	99.2	109.5	109.5
Fabricated Metals	100.0	79.5	103.6	80.5
Machinery (exc. elec.)	100.0	65.2	90.4	80.4
Electrical Machinery	100.0	94.1	287.8	229.7
Transportation Equipment	100.0	98.0	169.4	157.3
All other	100.0	84.8	100.3	86.1

COVERED EMPLOYMENT IN MANUFACTURING GROUPS,
INDIANA STANDARD METROPOLITAN AREAS (Con't.)

Area	June 1948	Low Point before June 1950	High Point after June 1950	March 1954
South Bend:				
Machinery (exc. elec.)	8,771	5,593 Dec. '49	7,694 June '51	6,334
Transportation Equipment	23,909	21,225 June '49	34,673 Sept. '53	16,440
All other	14,974	14,362 Mar. '50	15,189 June '51	13,431
		Index		
Machinery (exc. elec.)	100.0	63.8	87.7	72.2
Transportation Equipment	100.0	88.8	145.0	68.8
All other	100.0	95.9	101.4	89.7
Evansville:				
Machinery (exc. elec.)	15,819	11,602 June '49	20,672 Mar. '53	14,807
Transportation Equipment*	--	--	16,139 Dec. '52	6,979
All other*	16,247	11,286 Mar. '50	28,864 Dec. '52	19,020
		Index		
Machinery (exc. elec.)	100.0	73.3	130.7	93.6
Transportation Equipment*	--	--	--	--
All other*	100.0	69.5	177.6	117.0

* The "all other" group includes transportation equipment in all periods. Transportation equipment was first singled out for reporting in September 1952.
Note: Detail not published for Muncie and Terre Haute Areas.
Source: Adapted from reports of the Indiana Employment Security Division.

an upward trend almost continually since 1948 in the Area, with an over-all gain of almost 10,000 covered workers.

In the South Bend Area, the machinery industry began to decline in 1948 and has made little recovery from the very low point in 1949. Employment in transportation equipment, on the other hand, was very strong throughout the 1948-53 period, but dropped exceptionally far in the first quarter of 1954. The "all other" group has held up well. In effect, the recent distress in South Bend was partly due to weakness of the "machinery" segment in recent years--not just to the immediate problem in the auto industry.

In the Evansville Area, the machinery group reacted rather unfavorably during the '49 recession and again in 1952, but gained sharply during the 1953 boom period. The decline into March of 1954 was rather sharp. The "all other" group, of which transportation equipment was definitely the dynamic part, gained employment rapidly early in 1952. Separate figures for transportation equipment were made available beginning in the third quarter of 1952. They show that this category had a peak covered employment of more than 16,000 in December of 1952, but dropped to less than 7,000 in March of 1954.

Breakdowns by types of manufactures are not provided, in published data, for the Terre Haute and Muncie Standard Metropolitan Areas.

In view of the significant developments of 1954, it is not justifiable to place a great deal of emphasis on figures as of March 1954. These figures will have to be put into their proper light some months or years from now. The dip has been very sharp in some areas, within certain types of manufactures, but it may turn out to have been a short-term decline in most, if not all, cases. On the other hand, there are hints in some cases that areas are changing in industrial composition.

Current Estimates of Total Employment

Rather than leave dangling the employment picture as of March 1954, it may be desirable to look at more current developments in the industrial centers. Estimates of total employment (not just the part covered by the unemployment insurance program) are available from the Employment Security Division. Changes from July 1953 to September 1954 (latest data) are shown in the accompanying table. The table does not provide a picture of the sweep of events such as was shown in the preceding tables; it does, however, locate the strong and weak spots, by area and type of product, that have been revealed during the period in question. (The covered employment tables showed the trend through March of 1954. Recall that some places--especially Evansville--had reached a peak before July 1953.)

ESTIMATED TOTAL EMPLOYMENT, SEVEN INDIANA STANDARD METROPOLITAN AREAS, BY TYPE OF INDUSTRY, SPECIFIED MONTHS
(in thousands)

Area & Industry	July '53	Sept. '53	March '54	July '54	Sept. '54
Fort Wayne:					
Total, all industries	94.0	92.1	85.4	84.4	83.1
Manufacturing (total)	41.8	40.8	36.4	34.5	33.1
Nonelect. machinery	4.4	4.4	3.9	4.1	3.7
Electrical machinery	14.8	15.3	14.0	12.4	11.8
Transp. equipment	9.6	8.6	7.1	6.8	6.6
All other mfg.	13.0	12.5	11.4	11.2	11.0
Muncie: All industries	41.5	NA	NA	36.7	NA
Lake County:					
Total, all industries	190.2	187.8	175.3	178.1	175.4
Manufacturing (total)	112.8	109.6	102.9	102.7	100.5
Products of oil & coal	11.9	11.9	11.8	12.1	12.1
Steel mills & foundries	70.1	67.4	62.4	61.9	60.8
All other mfg.	30.8	30.3	28.7	28.7	27.6
Terre Haute:					
Total, all industries	43.6	NA	41.2	40.3	NA
Manufacturing (total)	12.3	NA	10.7	10.9	NA
Indianapolis:					
Total, all industries	307.2	316.5	296.5	294.1	311.4
Manufacturing (total)	109.1	112.2	104.9	101.7	102.6
Foods	9.2	10.5	9.6	9.9	9.9
Chemicals	8.2	8.2	8.5	8.3	8.3
Fabricated metals	7.1	7.3	5.9	6.2	6.2
Nonelectric. machinery	12.9	12.6	11.8	11.6	11.3
Electrical machinery	19.7	19.7	16.8	16.6	17.8
Transportation equipment	25.3	27.1	26.9	24.9	24.7
All other mfg.	26.7	26.8	25.5	24.2	24.4

ESTIMATED TOTAL EMPLOYMENT, SEVEN INDIANA STANDARD METROPOLITAN AREAS, BY TYPE OF INDUSTRY, SPECIFIED MONTHS (Continued)
(in thousands)

Area & Industry	July '53	Sept. '53	March '54	July '54	Sept. '54
South Bend:					
Total, all industries	107.8	106.7	94.5	(91.2)*	91.5
Manufacturing (total)	57.0	57.0	46.1	(42.7)*	41.6
Nonelectrical machinery	6.3	6.8	6.0	4.6	5.4
Transportation equipment	35.6	34.7	26.2	(23.9)*	21.9
All other mfg.	15.1	15.5	13.9	14.2	14.3
Evansville:					
Total, all industries	85.1	82.7	76.7	73.8	71.0
Manufacturing (total)	41.8	39.2	34.2	30.9	28.3
Nonelectrical machinery	14.1	14.2	13.5	12.0	12.0
Transp. equipment	13.8	11.6	8.2	6.2	3.4
All other mfg.	13.9	13.4	12.5	12.7	12.9

NA - Not available.
* Weeks (alternate) when Studebaker production workers were employed. Estimated.
Source: Reports of the Employment Security Division.

In the Fort Wayne Area, total employment in the July '53-Sept. '54 period declined (according to estimates) 10.9 thousand, with 8.7 thousand of that in manufacturing. Electrical machinery and transportation equipment each laid off 3,000 workers.

The steel mills in Lake County finally, by the middle of 1954, were cutting down on employment, to the tune of 9 to 10 thousand.

The Indianapolis Area displayed continuing strength through the July '53-Sept. '54 period--even more stability than Lake County.

The decline in employment in South Bend was about 16.3 thousand, with 15.4 thousand in manufacturing--mostly in the automotive plants.

Evansville's decline in employment was about 11.7 thousand, mainly in transportation equipment and machinery. Here, it should be added that the decline in manufacturing from March 1953 to September 1954 is estimated to have been slightly over 20,000.

D. Outlook for Manufacturing in the Region

Cities in this region rest mainly on manufacturing. 1/ No base for substantial growth other than manufacturing jobs is now in sight for them, excepting, probably, the cities on the Great Lakes, with prospects for water-borne trade.

COMPARATIVE GROWTH OF MANUFACTURING EMPLOYMENT, UNITED STATES, EAST NORTH CENTRAL STATES AND INDIANA, CENSUS YEARS

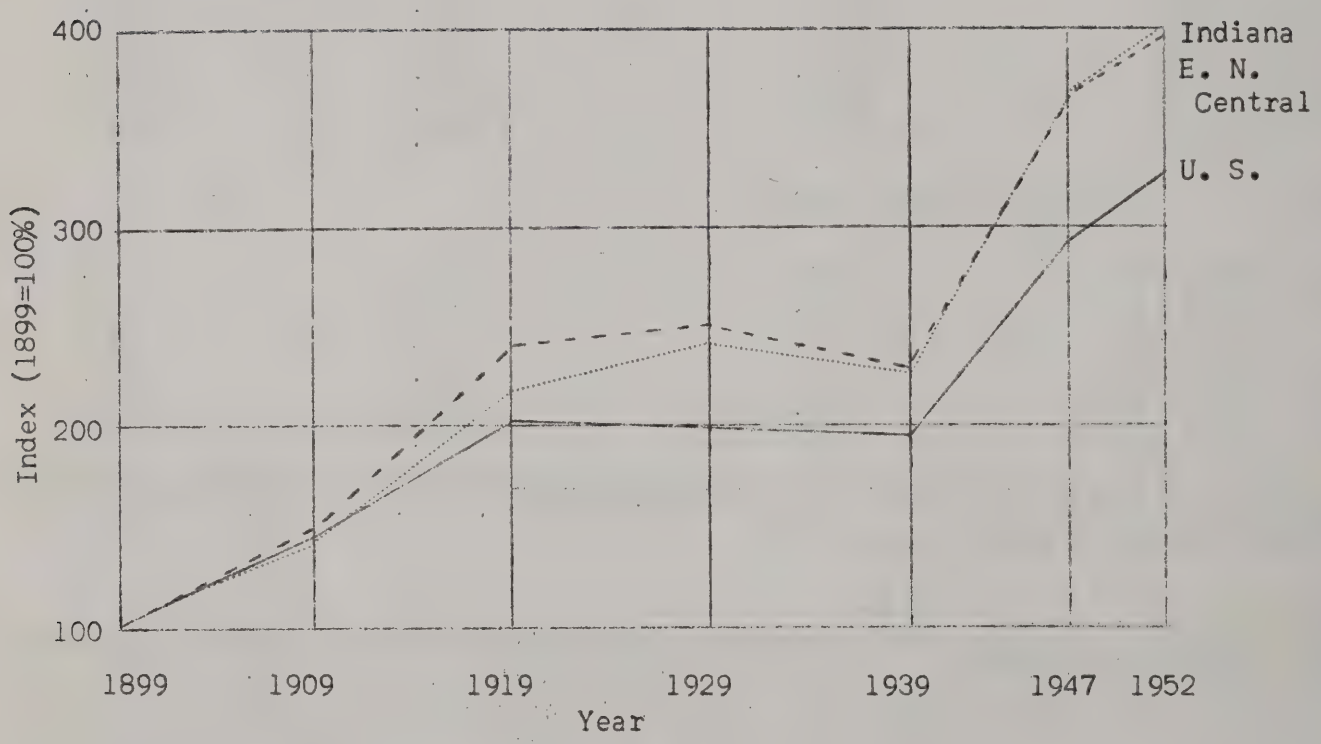
Year	United States	E. North Central	Indiana
Index (1899=100)			
1899	100.0	100.0	100.0
1909	144.6	147.0	140.9
1919	202.8	240.0	215.7
1929	199.2	250.6	240.8
1939	196.4	228.8	226.1
1947	294.7	366.9	366.9
1952	328.7	399.9	400.1
% change, census periods:			
1899-1909	44.6	47.0	40.9
1909-1919	40.3	63.3	53.1
1919-1929	-1.8	4.4	11.6
1929-1939	-1.4	-8.7	-6.1
1939-1947	50.0	60.3	62.3
1947-1952	11.5	9.0	9.1

Sources: Adapted from 1947 Census of Manufactures, Vol. I., Table 4 and 1952 Annual Survey of Manufactures.

1/ Municipal Yearbook, 1953 contains an analysis of standard metropolitan areas in terms of economic type. Every area shown on the preceding charts is listed as a manufacturing center, whereas for the U. S. as a whole only about 40 percent of the metropolitan areas are of this type. The ratio of manufacturing employment to the total of manufacturing, trade and service employment, during the 1947-48 period, was as follows:

Fort Wayne	65
Chicago	57
Cleveland	60
Detroit	64
Flint	70
Grand Rapids	61
Indianapolis	55
Jackson (Mich.)	64
Kalamazoo	64
Lima	63
Muncie	70
South Bend	67
Toledo	60

Figure 8



INDEX OF CHANGE IN TOTAL EMPLOYMENT IN MANUFACTURING (1899=100)

Sources: 1899 to 1947, from 1947 Census of Manufactures, Vol. 1, 1952 data from 1952 Annual Survey of Manufactures.

Because of the apparent importance of manufacturing employment, it is useful to review briefly the past and present trends in the region. Fort Wayne will probably follow the regional pattern--though such an outcome is not assured.

The accompanying table (p. 28) gives comparative data on manufacturing employment in the East North Central region and in Indiana since 1899. Both Indiana and the E. N. C. States have considerably outdistanced the nation as a whole since 1899. In the earlier decadesIndiana gained less rapidly than the other four states (combined), but Indiana caught up by 1939 or thereabouts and had a small lead in 1952. The U. S. as a whole was falling behind this region throughout most of the period, especially during 1909-19; in the 1939-47 period Indiana and its neighbors again forged ahead. The somewhat greater percentage gain in the U. S. than in this region during 1947-52 (11.5% as against 9.0%) may be accounted for by the relatively high level of employment in the region in 1947.

More detailed information (see U. S. Dept. of Labor, "Employment & Earnings," May 1954) reveals that Indiana, Michigan and Ohio, in that order, made impressive gains in factory employment in the 1948-1953 period. Only a few states (California, Texas, Florida and Oklahoma) experienced greater rates of gain.

Evidence from the tabulation of investments in defense facilities under the rapid tax amortization program (Certificates of Necessity) indicates that Indiana, Michigan and Ohio have received far more than their share, on a population basis, of the investments in industrial facilities. On a population basis, only one region, Texas and its neighbors, can be said to have participated to anywhere near the extent the Tri-State Region has.

The general conclusion must be, certainly, that Indiana and its neighbors (especially Michigan and Ohio, but with Illinois showing a belated upswing) are continuing to be favored parts of the nation for manufacturing.

The potential advantages of the region in which Fort Wayne is located, along the "manufacturing belt" of the United States, have been given wide publicity in recent months due to research by geographers at the University of Chicago. 2/ Fort Wayne is given a special status as a result of these studies, in that it is determined to be the optimum location for manufacturers or distributors wishing to minimize transport costs in serving the national market--land transport exclusively. (See page 26 of the Gold report.)

Expansion of heavy metals industries in this region under conditions of increased water-borne trade via the St. Lawrence Seaway is beyond our ability to forecast, but it is common knowledge that the area already supplies a large part of the machinery and transportation equipment that weigh heavily in the total exports of the United States.

Certainly anyone who has read the preceding materials on population growth and growth of manufactures will be inclined to agree that over the long run growth seems to be shared among cities in a region. In the long run, this may be the case at Fort Wayne, without local planning and development efforts. Two obvious weaknesses of such thinking are the following:

1) The current large short-run decline in factory employment, which has not been "corrected" to a significant degree as this is being written, is reason for concentrated efforts to create an economy less subject to cyclical influences. It seems to be difficult for the manufacturing cities in this region--excepting perhaps two or three of the largest ones--to achieve a notable degree of industrial balance (see next section), but there is no proof that it is impossible.

2) There is widespread evidence that industry is influenced in its investment decisions by local planning and development programs.

2/ Business Week, April 3, 1954, contains some highlights of research by Chauncey D. Harris. For additional conclusions, see the following excellent report by Robert N. Gold of the Department of Geography, University of Chicago: "Manufacturing Structure and Pattern of the South Bend-Mishawaka Area," Research Paper No. 36, June 1954

FORT WAYNE ECONOMIC BASE STUDY--REPORT USING SECONDARY DATA

A. Introduction

It has become virtually axiomatic in the thinking of urban land economists and geographers that a city develops because it is a suitable location for concentrating a number of economic activities. To exist, the city must "export" goods and services to other areas, which brings it net earnings to buy the goods and services it requires. The following is an able conceptualization of the idea: 1/

"A community seems to be organized around its "export" industry, this being the source of the flows which this community injects into the larger independent system and which acts as a balance for the flows diverted from the larger system and channeled into this community."

It may seem to be relatively easy to apply this idea to a small farm-service town. The merchants bring in goods, sell them to the farm folks (also those in the town), receiving money to repay the out-of-town suppliers of the goods. The "basic" employment in the town is the activity directed toward supplying goods and services for the farm people. Some of the town residents will do various services for the "basic" workers--domestic workers would be a clean-cut example. The term "service activity" has been suggested for such completely local activity, which does not involve export of goods, services or capital beyond the town. 2/

Even though the idea seems simple, it has proved difficult to apply it even to a small community. The tradesmen, gas-station operators, farm produce assemblers, etc. are to some extent exporting goods and services and to some extent supplying strictly local needs. Trying to apply the idea, in a

1/ R. Vining, "The Region as an Economic Entity...," American Economic Review, May 1949.

2/ Richard B. Andrews, "Mechanics of the Urban Economic Base: Problem of Terminology," Land Economics, August 1953, p. 268.

statistical fashion, to a metropolitan center seems to be possible in only a "rough a ready" manner--a task completely out of place for the perfectionist. However, researchers have shown resourcefulness in efforts to sort out the "basic" activities, or the "urban growth" employment. 3/

It is obvious that the growth of a city is correlated with the growth of "basic" activities--even though the efforts to find some stable expression, mathematically, of the relationship have given widely varying results. Does one "basic" job provide an opportunity for (say) one "service" job, and eventually for two families with a total of (say) seven members? When a basic job is lost, do seven people move out? Certainly not immediately. In most of our cities the number of jobs fluctuates greatly over the years. We still do not know very much about the rate at which adjustments are made, largely because comprehensive data are not available.

In this preliminary-type report on the economic base of Fort Wayne, we shall combine the more time-honored descriptions of the economy on the basis of occupation and type of industry with some preliminary probing using crude methods for identifying "basic" jobs.

B. Occupational Structure

The occupational composition of Allen County 4/ is compared with that of the United States Urban population and with the occupational structure of a group of standard metropolitan areas (all single counties, named for their major city, except Lake County, Indiana) in the Tri-State Region. These metropolitan areas are, as noted above, generally classified as manufacturing

3/ Arthur M. Weimer and Homer Hoyt, Principles of Urban Real Estate, 1948, pp. 85-86. See also the analysis by W. G. Pinnell in his Evansville study "An Analysis of the Economic Base of Evansville,Indiana," Indiana University School of Business, 1954.

4/ The Fort Wayne city boundaries do not follow economic boundaries--such as the labor force area. Allen County is a more defensible unit for study.

OCCUPATIONAL DISTRIBUTION OF EMPLOYED PERSONS, URBAN U. S., FORT WAYNE AND SELECTED METROPOLITAN AREAS

Occupation	U. S. Urban	Indiana						Ohio		Michigan			
		Fort Wayne	Lake Co.	Indiana-apolis	South Bend	Evans-ville	Muncie	Lima	Toledo	Flint	Kala-mazoo	Grand Rapids	Jack-son
Percent (total = 100%)													
Professional, etc.	10.3	9.2	7.5	9.8	8.3	8.2	7.5	8.5	8.9	6.7	10.4	8.6	8.9
Managers, off., prop.	10.2	8.8	6.4	9.3	7.5	9.0	7.9	8.8	9.3	5.9	8.8	9.1	8.7
Clerical & kindred	15.5	14.9	11.7	16.9	13.5	13.2	10.5	11.8	14.8	10.4	12.7	13.0	11.9
Sales workers	8.3	8.2	5.2	8.7	6.7	8.0	7.1	8.4	7.9	6.8	7.6	9.0	7.8
Craftsmen, foremen, etc.	15.0	15.8	23.2	16.1	15.8	15.2	15.2	17.8	16.7	17.0	16.3	16.5	16.4
Operatives & kindred	21.1	24.6	22.8	20.8	31.0	26.5	28.5	21.9	24.2	37.5	24.6	26.4	24.6
Service workers	9.1	7.3	7.2	8.7	7.2	8.8	7.8	8.0	8.2	6.8	8.4	7.1	8.4
Laborers	5.8	3.8	12.6	5.1	4.9	6.0	5.3	5.0	5.7	3.8	4.3	4.1	3.7
Agricultural (all)	.8	4.8	1.3	1.0	2.2	2.0	5.9	6.9	1.2	2.2	4.3	3.5	6.4
Other & not reported	3.9	2.6	2.1	3.7	2.8	3.2	4.2	2.9	3.0	3.0	2.7	2.7	3.2
Index: U. S. Urban = 100													
Professional, etc.	100	90	73	95	81	79	73	83	87	65	101	84	87
Managers, off., prop.	100	86	63	91	74	88	77	86	91	57	86	89	85
Clerical & kindred	100	96	76	109	87	85	68	76	95	67	82	84	77
Sales workers	100	98	63	104	81	96	86	101	95	82	91	108	93
Craftsmen, foremen, etc.	100	105	154	108	106	101	102	119	112	113	108	110	109
Operatives & kindred	100	117	108	99	147	126	135	104	115	178	117	125	117
Service workers	100	80	78	95	79	96	86	87	90	75	92	77	92
Laborers	100	64	216	88	84	104	91	86	97	65	74	70	64
Average deviation*		13.5	40.6	6.6	20.9	10.9	19.5	13.3	9.0	35.0	12.6	17.4	16.0

*Index number for each occupation subtracted from 100, added disregarding signs, and averaged. Largest numbers show most atypical local distribution of occupations. Index based on eight occupational groups shown.

Source: Adapted from 1950 Census of Population.

communities--though in differing degrees.

Fort Wayne fits in with the general pattern of manufacturing areas, which is fewer than the total U. S. Urban proportion of professional and proprietary persons, more craftsmen, foremen, etc. (skilled) and operatives, etc. (semi-skilled, roughly). The manufacturing-type community also tends to be below average in numbers of service workers--business and repair services, personal services in great variety; these are more prevalent in commercial-type communities. The unskilled laborer is found in relatively small numbers, also, in most manufacturing centers; Lake County still has many unskilled-type jobs along with the highly skilled.

The index numbers at the bottom of the table give a more direct perception of the occupational structures. Fort Wayne has about nine-tenths as many professional people as the "average" U. S. urban community, and 86 percent as many managers, officials and proprietors. This is a typical situation in manufacturing cities with large plants--note how much more true this is in the case of Flint, Muncie and Lake County.

Fort Wayne is more nearly average in the case of clerks and sales workers, but the index is below 100. It is above average in both the skilled and semi-skilled groups, but most noticeably in the semiskilled (assembly) type of occupation.

The final row of figures in the table present a rough indicator of normality of occupational structure, with the U. S. Urban population as a standard. Indianapolis is most nearly typical of the national distribution and Lake County most atypical; Fort Wayne is about average for this group of metropolitan areas.

C. Industrial Composition of the Labor Force

The distribution of the labor force by type of industry has generally been considered the most meaningful single index of the economic character of an area. It shows the local skills and experiences; probably more important, it is a tip-off on the income levels and on the probable changes in output and employment during the various stages of the business cycle. (See preceding section.)

The industrial distribution of the employed, resident labor force of the Fort Wayne Standard Metropolitan Area (Allen Co.) is compared with that of the U. S. Urban population, with Indiana's, and with that of the other Indiana metropolitan areas in the accompanying tables. The first table shows the percentage distribution, and the second provides an index of variation from the U. S. Urban pattern.

The agriculture and mining groups are comparatively small in all the areas (except the State). Our interest is not centered on these groups, and they will be dismissed after acknowledging this point: the fact that 5 percent of all Allen County employed were engaged in agriculture as compared with 1.1 percent of U. S. Urban employed is an indication that the U. S. Urban group is not fully ideal for use as a standard for the index which follows; still, it seems the best "norm" available.

About 6 percent of U. S. Urban workers were engaged in construction in 1950, compared with 4.7 percent in Fort Wayne and generally smaller than average percentages in other Indiana communities. This general picture has been noted in a number of Council studies, and remains something of a conundrum to us, in view of the high rate of growth of several of the areas.

The main interest is in the manufacturing segment. Only 29 percent of U. S. Urban workers were engaged in manufacturing, but the figure for Indiana

% DISTRIBUTION OF EMPLOYED WORKERS BY TYPE OF INDUSTRY: 1950

(Standard Metropolitan Areas--all single counties)

Industry Group	U. S. Urban	Indiana	Fort Wayne	Lake Co.	Indiana-polis	South Bend	Evans-ville	Muncie	Terre Haute
Employed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture, forestry & fisheries	1.1	11.6	5.0	1.3	1.1	2.3	2.1	6.1	4.4
Agriculture	1.0	11.6	5.0	1.3	1.1	2.3	2.1	6.1	4.4
Forestry and fisheries	.1	---	---	---	---	---	---	---	---
Mining	.9	1.0	---	---	.1	---	.7	.1	4.3
Construction	6.0	5.1	4.7	5.2	5.5	3.7	5.1	4.2	4.3
Manufacturing	29.4	34.8	38.8	53.6	32.9	50.2	39.6	43.2	23.3
Durable goods:	15.5	25.0	30.3	41.4	20.3	38.2	29.4	36.7	7.1
Furniture, lumber & wood products	1.3	2.2	0.5	0.2	0.8	0.5	2.7	2.1	0.8
Primary metal industries	2.5	5.3	2.6	34.4	1.7	0.5	0.3	2.8	2.4
Fabricated metal industries	1.8	2.0	0.6	2.0	2.7	0.8	2.2	2.4	1.7
Machinery, except electrical	2.8	4.3	6.2	0.8	4.1	6.9	18.1	2.5	0.7
Electrical machinery, equipment	1.8	3.7	11.7	0.2	4.4	0.8	0.2	2.5	0.1
Motor vehicles and equipment	1.9	4.4	8.1	0.7	3.2	22.8	3.7	15.2	0.1
Transportation equip., except motor	1.1	0.9	---	1.3	1.9	4.7	---	0.1	---
Other durable goods	2.3	2.3	0.6	1.8	1.5	1.2	2.1	9.2	1.3
Nondurable goods:	13.7	9.3	8.4	12.1	12.3	11.5	10.0	6.5	16.1
Food and kindred products	2.9	2.8	3.2	1.5	3.7	1.8	5.7	3.0	8.2
Textile mill products	2.1	0.4	1.2	0.3	0.9	0.2	0.1	---	0.1
Apparel, fabricated textiles	2.3	1.0	0.8	0.5	0.7	2.0	0.9	0.3	0.5
Printing, publishing, etc.	2.0	1.4	1.4	1.1	2.2	1.1	1.4	1.2	2.1
Chemicals and allied products	1.3	1.1	0.4	1.9	2.7	0.4	0.3	0.1	3.4
Other nondurable goods	3.1	2.6	1.4	6.8	2.2	6.0	1.7	1.2	1.9
Not specified mfg. industries	0.2	0.4	0.1	0.1	0.3	0.5	0.1	0.6	0.1
Transport., commun., other public utilities	9.0	7.4	9.0	7.8	9.6	6.1	7.6	5.9	11.7
Transportation:	6.0	5.2	6.5	5.7	6.6	3.8	5.5	3.7	9.2
R.R. and R.R. express service	2.8	2.8	3.7	3.8	3.3	0.7	2.8	1.3	6.0
Trucking and warehousing	1.3	1.5	1.9	0.9	1.9	2.4	1.6	1.7	2.3
Other transportation	1.9	0.8	0.8	1.0	1.4	0.7	1.1	0.6	0.9

DISTRIBUTION OF EMPLOYED WORKERS BY TYPE OF INDUSTRY: 1950

Industry Group	U. S. Urban	Indiana	Fort Wayne	Lake Co.	Indianapolis	South Bend	Evansville	Muncie	Terre Haute
Telecommunications	1.4	1.0	1.0	0.8	1.4	0.8	0.8	0.8	0.9
Utilities and sanitary services	1.6	1.3	1.5	1.2	1.6	1.5	1.3	1.4	1.6
Wholesale and retail trade	21.9	17.6	20.3	15.2	21.7	16.9	21.4	18.2	23.5
Wholesale trade	4.3	2.9	4.0	1.8	4.7	2.8	4.2	2.7	5.2
Retail trade:	17.6	14.6	16.3	13.4	17.0	14.1	17.2	15.5	18.3
Food & dairy prod., milk retail	3.4	2.8	2.7	2.8	2.9	2.3	3.1	3.1	3.5
Eating & drinking places	3.5	2.8	3.1	3.0	2.9	2.6	3.6	3.3	3.6
Other retail trade	10.8	9.1	10.5	7.6	11.2	9.2	10.4	9.2	11.2
Finance, insurance, and real estate	4.4	2.6	3.7	2.0	5.0	3.2	2.7	2.2	2.5
Business and repair services	2.7	2.2	2.2	1.4	2.4	1.8	2.1	2.1	2.7
Business services	1.1	0.5	0.8	0.4	0.9	0.7	0.6	0.6	1.0
Repair services	1.6	1.6	1.4	1.0	1.4	1.1	1.5	1.5	1.8
Personal services	7.2	4.7	4.5	3.7	6.3	4.1	6.0	4.9	7.1
Private households	3.2	2.0	1.6	1.2	2.6	1.4	2.6	2.2	3.2
Hotels and lodging places	1.1	0.6	0.7	0.5	0.9	0.6	0.8	0.5	1.1
Other personal services	2.9	2.1	2.2	2.0	2.8	2.1	2.6	2.3	2.8
Entertainment & recreation services	1.2	0.8	0.9	0.7	1.0	0.7	1.0	0.8	1.2
Professional and related services	9.5	7.6	7.0	5.6	8.4	7.8	8.2	8.0	9.5
Medical and other health services	3.5	2.3	2.5	1.8	3.4	2.2	3.4	2.1	2.8
Educational services:	3.8	3.6	2.6	2.6	2.8	4.0	2.9	4.3	4.5
Educational services, government	2.7	2.8	1.8	2.1	2.1	1.7	2.1	3.9	3.4
Educational services, private	1.1	0.8	0.8	0.5	0.7	2.3	0.8	0.4	1.0
Other professional & related services	2.1	1.7	1.8	1.3	2.3	1.6	2.0	1.6	2.3
Public administration	5.2	3.2	2.6	2.4	4.6	2.2	2.6	2.0	4.5
Industry not reported	1.3	1.6	1.2	0.9	1.4	1.6	0.9	2.4	1.1

---Less than 0.1 percent.

Source: Adapted from 1950 Census of Population.

INDEX OF DISTRIBUTION OF JOBS BY INDUSTRY: RATIO OF PERCENT OF LOCAL WORKERS EMPLOYED IN INDUSTRY GROUP TO U. S. URBAN DISTRIBUTION (Ratio of 1.0 shows average condition, .5 half as many as average for U. S. urban areas, 1.5 half again as many as average, etc.)

Industry Group	Fort Wayne	Lake Co.	Indian-apolis	South Bend	Evans-ville	Muncie	Terre Haute
Agriculture, forestry, and fisheries	4.5	1.2	1.0	2.1	1.9	5.5	4.0
Agriculture	5.0	1.3	1.1	2.3	2.1	6.1	4.4
Forestry and fisheries	---	---	---	---	---	---	---
Mining	---	---	0.1	---	0.8	0.1	4.7
Construction	0.8	0.9	0.9	0.6	0.9	0.7	0.7
Manufacturing	1.3	1.8	1.1	1.7	1.3	1.5	0.8
Durable goods:	2.0	2.7	1.3	2.5	1.9	2.4	0.5
Furniture, lumber, and wood products	0.4	0.2	0.6	0.4	2.1	1.6	0.6
Primary metal industries	1.0	13.8	0.7	0.2	0.1	1.1	1.0
Fabricated metal industries	0.3	1.1	1.5	0.4	1.2	1.3	0.9
Machinery, except electrical	2.2	0.3	1.5	2.5	6.5	0.9	0.3
Electrical machinery and equipment	6.5	0.1	2.4	0.4	0.1	1.4	0.1
Motor vehicles and equipment	4.3	0.4	1.7	12.0	1.9	8.0	0.1
Transportation equipment, except motor	---	1.2	1.7	4.3	---	0.1	---
Other durable goods	0.3	0.8	0.7	0.5	0.9	4.0	0.6
Nondurable goods:	0.6	0.9	0.9	0.8	0.7	0.5	1.2
Food and kindred products	1.1	0.5	1.3	0.6	2.0	1.0	2.8
Textile mill products	0.6	0.1	0.4	0.1	---	---	---
Apparel and fabricated textiles	0.3	0.2	0.3	0.9	0.4	0.1	0.2
Printing, publishing, etc.	0.7	0.6	1.1	0.6	0.7	0.6	1.1
Chemicals and allied products	0.3	1.5	2.1	0.3	0.2	0.1	2.6
Other nondurable goods	0.5	2.2	0.7	1.9	0.5	0.4	0.6
Not specified mfg. industries	0.5	0.5	1.5	2.5	0.5	3.0	0.5
Transport., commun., other public utilities	1.0	0.9	1.1	0.7	0.8	0.7	1.3
Transportation:	1.1	1.0	1.1	0.6	0.9	0.6	1.5
R.R. and R.R. express service	1.3	1.4	1.2	0.3	1.0	0.5	2.1
Trucking and warehousing	1.5	0.7	1.5	1.8	1.2	1.3	1.0
Other transportation	0.4	0.5	0.7	0.4	0.6	0.3	0.5

INDEX OF DISTRIBUTION OF JOBS BY INDUSTRY: RATIO OF PERCENT OF LOCAL WORKERS EMPLOYED IN INDUSTRY GROUP TO U. S. URBAN DISTRIBUTION (Ratio of 1.0 shows average condition, .5 half as many as average for U. S. urban areas, 1.5 half again as many as average, etc.)

Industry Group	Fort Wayne	Lake Co.	Indian-apolis	South Bend	Evans-ville	Muncie	Terre Haute
Telecommunications	0.7	0.6	1.0	0.6	0.6	0.6	0.6
Utilities and sanitary services	0.9	0.8	1.0	0.9	0.8	0.9	1.0
Wholesale and retail trade	0.9	0.7	1.0	0.8	1.0	0.8	1.1
Wholesale trade	0.9	0.4	1.1	0.7	1.0	0.6	1.2
Retail trade:	0.9	0.8	1.0	0.8	1.0	0.9	1.0
Food, dairy products, and milk retailing	0.8	0.8	0.9	0.7	0.9	0.9	1.0
Eating and drinking places	0.9	0.9	0.8	0.7	1.0	0.9	1.0
Other retail trade	1.0	0.7	1.0	0.9	1.0	0.9	1.0
Finance, insurance, and real estate	0.8	0.5	1.1	0.7	0.6	0.5	0.6
Business and repair services	0.8	0.5	0.9	0.7	0.8	0.8	1.0
Business services	0.7	0.4	0.8	0.6	0.5	0.5	0.9
Repair services	0.9	0.6	0.9	0.7	0.9	0.9	1.1
Personal services	0.6	0.5	0.9	0.6	0.8	0.7	1.0
Private households	0.5	0.4	0.8	0.4	0.8	0.7	1.0
Hotels and lodging places	0.6	0.5	0.8	0.5	0.7	0.5	1.0
Other personal services	0.8	0.7	1.0	0.7	0.9	0.8	1.0
Entertainment and recreation services	0.8	0.6	0.8	0.6	0.8	0.7	1.0
Professional and related services	0.7	0.6	0.9	0.8	0.9	0.8	1.0
Medical and other health services	0.7	0.5	1.0	0.6	1.0	0.6	0.8
Educational services:	0.7	0.7	0.7	1.1	0.8	1.1	1.2
Educational services, government	0.7	0.8	0.8	0.6	0.8	1.4	1.3
Educational services, private	0.7	0.5	0.6	2.1	0.7	0.4	0.9
Other professional and related services	0.9	0.6	1.1	0.8	1.0	0.8	1.1
Public administration	0.5	0.5	0.9	0.4	0.5	0.4	0.9
Industry not reported	0.9	0.7	1.1	1.2	0.7	1.8	0.8

as a whole was 34.8 percent in 1950. The range among the metropolitan areas was 23.3 percent (Terre Haute) to 53.6 (Lake Co.). Fort Wayne's percentage, 38.8, is almost average for the metropolitan areas listed.

Three groups (electrical machinery and equipment, motor vehicles and equipment, and machinery) stand out in the Fort Wayne Area. Except for Terre Haute, the Indiana metropolitan-type areas have relatively fewer persons engaged in production of nondurables than the "average" urban area in the country.

In the transportation, communication and other public utilities category, Fort Wayne had (1950) the same percentage (9.0) as the U. S. Urban labor force; the Fort Wayne Area percentage was higher in the railroad and trucking sub-types, under transportation.

The trade groups in Fort Wayne provided work for about 20 percent of the employed, as compared with almost 22 percent in the U. S. Urban population. Most Indiana metropolitan areas are somewhat below average in employment in this category--especially Lake County, South Bend and Muncie.

In general, Fort Wayne and the other areas are comparatively light in employment in finance (etc.), business and repair services, recreation services, professional services and public administration. Note, for example, that the U. S. Urban labor force had twice as large a percentage working in personal services, private households, as Fort Wayne had.

The second part of the table gives an index of the distribution of the labor force by type of industry. Its purpose is merely to express the preceding figures more directly. Highlights for Fort Wayne include the following:

a) eight-tenths as many construction workers as the U. S. Urban average;

b) thirty percent more manufacturing workers than in the U. S. Urban pattern;

c) twice as many workers in durable-goods industries, but only six-tenths as many in nondurables; d) six and one-half times as many Fort Wayne workers

in electrical machinery and 4.3 times ~~and~~ as many in motor vehicles, etc.; e) thirty percent more in railroad employment and fifty percent more workers in trucking (etc.) than in the U. S. Urban pattern; e) trade ratio almost average, but ratios noticeably low in practically all services; and f) only half as many public administration (government) workers as in an "average" urban area.

Several of the areas have concentrations in a few manufacturing categories, some greater than in the case of Fort Wayne. Noteworthy cases are Lake County, with a ratio of 13.8 in primary metals industries and South Bend, with a ratio of 12.0 in motor vehicles & equipment; also, Muncie (8.0 in motor vehicles etc.), and Evansville (6.5 in machinery--mostly refrigerators) stand out.

Indianapolis and Terre Haute are the most diversified and most like the whole urban population in industrial pattern of any of these seven areas. Lake County, South Bend and Muncie are the most atypical, and Fort Wayne and Evansville are in-between. At least, this is the conclusion one would reach from analyzing the variability in a mathematical fashion. This should not be taken, of itself, as a basis for rating the industrial composition in an area as desirable or undesirable.

D. Distribution of Employment: 1950 Census Model, U. S. and Fort Wayne

Further understanding of the economic base of Fort Wayne is obtained by analyzing the rate of participation of the population in the labor force of the Nation, by industry, and using this as a standard for comparison with Fort Wayne's rate of participation. The number of persons employed in each industry group, per 1,000 population, has been calculated for the U. S. as a whole. If Fort Wayne were a "Little U.S.A." with the same number of people, out of a thousand, employed in each industry, how many people would be employed in each group, and how does this compare with the number Fort Wayne actually had in 1950? If Fort Wayne had a far greater number of workers, per 1,000 population, in certain industry groups than the U. S., it is evident that this is an industry with "basic" jobs--in the rather technical sense explained above. 1/

An answer to this question is afforded by the data in the accompanying table. Figures such as these change much more slowly, under normal circumstances than is sometimes realized--the data are not obsolete, even though we recognize that there has been a short-term (presumably) decline in some types of factory employment since the 1950 census.

The first noteworthy result from the analysis is that the Fort Wayne Area had almost seven thousand more employed persons in 1950 than it would have had if it were strictly a little cross-section of the U.S.A. It has, as an urban center, relatively more persons of working age, and comparatively more women in the labor force than the country as a whole.

The agriculture sector had over 4700 fewer workers than a cross-section U.S.A. would have. This is taken to mean that Allen County has large net imports of agricultural products, even though some products may be marketed outside the county. 2/ Presumably mineral products are imported, on a net

1/ This section is not developed with the intention of obtaining a numerical estimate of "basic" jobs.
2/ In this preliminary analysis, no account is taken of possible differences in productivity here and elsewhere.

SURPLUS OR SHORTAGE OF JOBS IN THE FORT WAYNE METROPOLITAN AREA, USING JOB DISTRIBUTION IN THE U.S.A. AS STANDARD
(Using jobs per 1,000 population in U. S., by type of industry, to compare with employment in Allen Co., 1950 Resident Employed)

Industry Group	Persons employed per 1,000 population, U.S.	Theoretical employ. Ft. Wayne, U. S. basis	Actual employment, Ft. Wayne	Surplus or shortage (-), Ft. Wayne
Employed, total	373.19	68,563	75,481	6918
Agriculture, forestry & fisheries	46.48	8,539	3,771	-4768
Mining	6.17	1,134	25	-1109
Construction	22.83	4,194	3,572	- 622
Manufacturing	96.72	17,769	29,271	11,502
Durable goods:	51.47	9,456	22,898	13,442
Furniture, lumber & wood products	7.89	1,450	343	-1,107
Primary metal industries	7.74	1,422	1,926	504
Fabricated metal industries	5.55	1,020	470	-550
Machinery, except electrical	8.59	1,578	4,712	3,134
Electrical machinery, equipment	5.24	963	8,860	7,897
Motor vehicles and equipment	5.76	1,058	6,109	5,051
Transportation equip., except motor	3.18	584	37	-547
Other durable goods	7.52	1,382	441	-941
Nondurable goods:	44.44	8,165	6,315	-1850
Food and kindred products	9.28	1,705	2,419	714
Textile mill products	8.23	1,512	886	-626
Apparel, fabricated textiles	7.06	1,297	598	-699
Printing, publishing, etc.	5.66	1,040	1,078	38
Chemicals and allied products	4.37	803	270	-533
Other nondurable goods	9.83	1,806	1,064	-742
Not specified mfg. industries	.81	149	58	-91
Transport., commun., other public utilities	28.99	5,326	6,764	1,438
Transportation:	19.51	3,584	4,882	1,298
R. R. and R. R. express service	9.20	1,690	2,822	1,132
Trucking service & warehousing	4.65	854	1,465	611
Other transportation	5.67	1,042	595	-447

SURPLUS OR SHORTAGE OF JOBS IN THE FORT WAYNE METROPOLITAN AREA, USING JOB DISTRIBUTION IN THE U.S.A. AS STANDARD (Using jobs per 1,000 popuuation in U. S., by type of industry, to compare with employment in Allen Co., 1950 Resident Employed) (Continued)

Industry Group	Persons employed per 1,000 population, U.S.	Theoretical employ. Ft. Wayne, U. S. basis	Actual employment, Ft. Wayne	Surplus or shortage (-), Ft. Wayne
Telecommunications	4.28	786	729	-57
Utilities & sanitary services	5.19	954	1,153	199
Wholesale & retail trade	69.99	12,859	15,354	2,495
Wholesale trade	13.11	2,409	3,019	610
Retail trade	56.88	10,450	12,335	1,885
Food & dairy prods, milk retailing	11.40	2,094	2,069	-25
Eating & drinking places	11.18	2,054	2,306	252
Other retail trade	34.30	6,302	7,960	1,658
Finance, insurance & real estate	12.72	2,337	2,793	456
Business and repair services	9.37	1,721	1,653	-68
Business services	3.04	558	613	55
Repair services	6.32	1,161	1,040	-121
Personal services	23.15	4,253	3,376	-877
Private households	10.85	1,993	1,205	-788
Hotels & lodging places	3.47	638	505	-133
Other personal services	8.83	1,622	1,666	44
Entertainment & recreation serv.	3.68	676	716	40
Professional and related services	31.02	5,699	5,271	-428
Medical & other health services	10.81	1,986	1,918	-68
Educational services:	13.72	2,521	1,993	-528
Educational services, government	10.20	1,874	1,368	-506
Educational services, private	3.52	647	625	-22
Other professional & related services	6.49	1,192	1,360	168
Public administration	16.52	3,035	1,991	-1,044
Industry not reported	5.57	1,023	924	-99

Source: Adapted from 1950 Census of Population, Vol. 2.

basis, and construction employment (more changeable) is smaller than it would have been if the area were "average" in need for construction workers.

In the manufacturing categories, the really large "excess" numbers of workers in the Area are in electrical machinery (7,900), motor vehicles, etc. (5,050) and other machinery (3,100)--for the three types, a total of 16,050 jobs. It seems almost superfluous to emphasize that this is where a large part of the "basic" jobs would be found, if exact data on the market destination of the products of the major firms in these categories were obtained. (Here, we might note that the chief exports, in international trade, of the U.S.A. are machinery, especially industrial and electrical, and transportation equipment. Probably part of the production of the General Electric and International Harvester plants in Fort Wayne goes into foreign trade. The point is that the figure 16,050 is probably far low as even a rough, first approximation to the number of "basic" jobs in these three industry groups, combined.)

In most types of manufacturing, the Fort Wayne Area is in a sense a deficit area. This does not mean that these other types of goods are not shipped outside the area in quantity, but does indicate a probability that these general groups of products are imported for local consumption, on a net basis.

In the transportation group the Fort Wayne Area had almost 1300 more jobs than its quota, by U. S. standards. These were in railroading and in the trucking industry. Here is the second major area to look for the "basic," urban-growth jobs.

Apparently Fort Wayne has some 2500 more jobs in trade (mainly retail) than it would have as a "Little U.S.A." Finance (etc.) jobs are also on the plus side. Here are areas to expect to find persons engaged in providing

goods and services for out-of-county residents. 3/

Again, we note that in most services the Fort Wayne Area is a deficit type. It is about 1,000 jobs short of an average quota in public administration!

In conclusion, we might say that although this type of technique does not provide direct, mathematical estimates of the number of persons engaged in producing goods and services sent outside the county (basic jobs) as against the service jobs, it does rather definitely point to three types of manufactures (electrical machinery, transportation equipment and nonelectrical machinery) and to two nonmanufacturing sectors (transportation and trade) as major areas where basic, urban-growth jobs are concentrated. It is recognized that local persons who have given thought to their community would be surprised if any other conclusion had been drawn from this preliminary analysis; yet, it is useful to bring this out in a statistical tabulation.

Perhaps the most valuable finding derived from this application of the concept of Fort Wayne as a "Little U.S.A." is that the trade segment of Fort Wayne's economy is more important than previous sub-sections suggested. (In these, the urban population was the standard.) This finding gives a better understanding of the need to consider land-use planning and zoning activities to help the trade sector; this corrects the notion that Fort Wayne's economy rests almost wholly on manufacturing.

3/ The comparison of the Fort Wayne Area labor force, by type of industry, with that of the Urban U. S. did not lead one to expect that retail and wholesale trade are so important to the Fort Wayne economy as this analysis, using the entire national population as a base, indicates.

E. Percentage Distribution of Number of Employees in Allen County as Compared With the United States, Spring of 1951

To complete the material on the economic base, using only published data, it was thought to be useful to look at employment by type of industry in still another perspective. The data used in the preceding section referred to the resident employed work force; more appropriate, for this whole analysis, would be a comparison based on the existing jobs in the area, whether or not the job holder lived in the county. It is almost certain that at the time of the 1950 census a minimum of 5,000 workers in Fort Wayne commuted from outside the county. Clearly these commuters are part of the "basic" workers and "service" workers of the area. The flow of income back to the area from exports produced by out-of-county workers cannot be separated from other goods and services. To the extent that commuters refrain from moving into the job centers, they do not build up the population and the service jobs in the employment center itself to the degree they would were commuting impractical.

For this section, the data used are from the 1951 reports of the Bureau of Old Age and Survivors Insurance (latest published). This program did not cover the self-employed, farmers and farm workers, workers for interstate railroads, for governments and charitable institutions and a few other categories in 1951--most of which are now covered.

In this case, it is not, unfortunately, feasible to convert the number of employed persons to a rate per 1,000 inhabitants (or some such base). One does not know how many people to include in the total population base from which workers in the Fort Wayne Area were recruited; they came from parts of several counties. 4/ There is no definite boundary, in any case. The next-best

4/ Judging from various information in our files, it would appear that at least parts of the following counties are part of the Fort Wayne labor market area: Adams, Wells, Huntington, Whitley, Noble, DeKalb in Indiana; Paulding and Vanwert in Ohio.

technique seemed to be to compare percentage distributions of employed persons. Where percentages are greater in Allen Co. than in the U. S., the presumption must be that Allen Co. has "basic" workers in these types of industry. We shall not attempt to estimate the number of "basic" jobs from these simple percentage distributions, but the total number of workers in Allen Co. is shown, by type of industry. Notice that this tabulation shows several more breakdowns by type of industry than the preceding one, from the 1950 census.

To review briefly the table, we might note that the same general deficit situation revealed in other tabulations is indicated again for mining and contract construction.

In the manufacturing group, employment appears to be relatively high in the Bakery Products and the Beverages industries. We presume that there are some "basic" jobs in these groups. The next category with relatively high employment in Allen Co. is Rubber Products--only .7 percent of employees nationally, but 2.5 percent in Allen Co. It was discovered in the "manufacturing trends" section that employment in the Rubber Products group recently became of local importance.

This tabulation suggests that primary metal manufactures are more important to the economic base than the preceding tabulations did. We suspect that the important wire-drawing establishments, which are really closely linked with the electrical machinery and automotive end products, were classed as primary metals at that time. In nonelectrical machinery, note the heavy concentration in Service-Industry and Household Machinery; however, some such firms have ceased operations in Fort Wayne since March of 1951.

Under electrical equipment, note that both Generating, Distributing and Industrial Apparatus and Communication Equipment (radio, TV, etc.) are exceptionally large employers in the Fort Wayne Area as compared with the U. S.

DISTRIBUTION OF EMPLOYMENT, ALLEN COUNTY COMPARED WITH THE UNITED STATES, SPRING OF 1951

Industry Group	U. S. -- Percent Distribution	Allen Co.-- Percent Distribution	Reported Employment, Allen County
TOTAL	100.00	100.00	71,226
Agric. Specialties, Forestry & Fisheries	.31	.07	50
Mining	2.39	.07	49
Contract Construction	6.20	4.40	3,135
General Contractors - Buildings	2.32	1.94	1,381
General Contractors - Other Construction	1.12	.83	589
Special Trade Contractors	2.76	1.63	1,165
Manufacturing	42.58	57.82	41,213
Food & Kindred Products	3.68	3.71	2,644
Meat Products	.77	.67	476
Dairy Products	.27	.48	343
Grain-Mill Products	.28	.24	174
Bakery Products	.75	1.12	797
Beverage Industries	.54	.84	598
Tobacco Manufactures	.24	.00	2*
Textile Mill Products	3.37	1.30	926
Knitting Mills	.68	1.30	926
Apparel & Other Fabric Products	3.36	1.34	955
Lumber & Wood Products	2.19	.29	208
Furniture & Fixtures	1.00	.95	608
Household Furniture	.73	.84	602
Paper & Allied Products	1.35	.56	396
Printing, Pub., & Allied Inds.	2.02	1.31	932
Newspapers	.72	.79	565
Commerical Printing	.53	.35	251

DISTRIBUTION OF EMPLOYMENT (Continued)

Industry Group	U.S.-- % Dist.	Allen Co.-- % Dist.	Employment Allen Co.
Manufacturing (continued)			
Chemical & Allied Products	1.91	.38	272
Products of Petroleum & Coal	.59	.03	20*
Rubber Products	.68	2.53	1,804
Leather & Leather Products	1.06	.02	14*
Stone, Clay & Glass Products	1.41	.06	43
Primary Metal Industries	3.29	4.11	2,930
Primary Metal Industries, Nonferrous	.62	.47	334
Misc. Primary Metal Industries	.39	2.86	2,039
Fabricated Metal Products	2.87	.47	336
Machinery, Exc. Electrical	4.25	7.42	5,289
Agricultural Machinery & Tractors	.51	.11	80
Constr. & Mining Machinery & Equipment	.30	.40	284
Metalworking Machinery	.66	.58	416
Special-Industry Machinery	.53	.17	123
General-Industrial Mach. & Equipment	.60	.39	276
Service-Industry & Household Mach.	.57	4.53	3,231
Electrical Mach. Equipment & Supplies	2.42	16.85	12,010
Generating, Distrib. & Indus. App.	.86	11.52	8,213
Communication Equipment, etc.	1.04	5.26	3,751
Transportation Equipment	3.89	12.87	9,173
Motor Vehicles & Equipment	2.24	12.87	9,173
Instruments & Related Products	.69	.03	20
Misc. Manufacturing Industries	1.31	.17	123
Administrative & Auxiliary (Mfg.)	.87	3.42	2,441
Public Utilities	7.02	5.38	3,835
Local Railways & Bus Lines	.37	.45	319

DISTRIBUTION OF EMPLOYMENT (Continued)

Industry Group	U.S.-- % Dist.	Allen Co.-- % Dist.	Employment Allen Co.
Public Utilities (continued)			
Trucking & Warehousing	1.72	2.16	1,542
Trucking, Local & Long Distance	1.40	2.03	1,446
Highway Transportation, N.E.C.	.54	.31	221
Telecommunications	1.78	1.23	878
Utilities & Sanitary Services	1.45	1.15	820
Wholesale Trade	7.30	5.43	3,873
Merchant Wholesalers	4.33	3.95	2,813
Whsle. Trade, Exc. Merchant Wholesalers	2.98	1.49	1,060
Sales Branches, Mfg. & Mining	1.65	.87	618
Petroleum Bulk Stations	.58	.18	125
Agents & Brokers Merchandise	.39	.16	111
Assemblers of Farm Products, Etc.	.37	.29	206
Retail Trade	19.16	17.58	12,532
Building Materials & Farm Equipment	1.33	.78	558
Lumber & Building Materials Dealers	.66	.39	280
Hardware & Farm Equipment	.52	.27	190
General Merchandise	3.56	4.16	2,965
Department Stores	1.91	2.80	1,998
Variety Stores	.89	1.29	920
Food	3.24	2.64	1,882
Auto. Dealers & Service Stations	2.76	2.65	1,890
Apparel & Accessories	1.64	1.34	954
Furniture, Home Furnishings & Equipment	.91	.80	573
Eating & Drinking Places	3.48	2.78	1,981
Miscellaneous Retail Stores	2.24	2.43	1,729
Finance, Insurance & Real Estate	5.01	2.61	1,863
Banking	1.13	.63	447

DISTRIBUTION OF EMPLOYMENT (Continued)

Industry Group	U.S.-- % Dist.	Allen Co.-- % Dist.	Employment Allen Co.
Finance, Insurance & Real Estate (continued)			
Credit Agencies, Other Than Banks	.33	.16	114
Security & Commodity Brokers etc.	.18	.06	40
Insurance Carriers	1.56	.69	489
Insurance Agents, Brokers & Service	.38	.34	240
Real Estate	1.21	.64	455
Services	9.23	6.41	4,572
Hotels, Rooming Houses, Camps, etc.	1.19	.74	524
Hotels	1.05	.72	512
Personal Services	2.27	1.63	1,163
Miscellaneous Business Services	1.14	.91	649
Auto Repair Services & Garages	.44	.40	284
Miscellaneous Repair Services	.33	.13	94
Radio Broadcasting & Television	.16	.17	123
Motion Pictures	.64	.41	289
Amusement & Recreation, N.E.C.	.71	.52	371
Medical & Other Health Services	.91	.51	363
Legal Services	.29	.13	94
Educational Services, Museums, etc.	.17	.19	137
Nonprofit Membership Organizations	.69	.55	394
Miscellaneous Services	.30	.12	87
Engineering & Architectural Services	.27	.11	80

* Estimated.
Source: Adapted from U. S. Department of Commerce, "County Business Patterns," First Quarter, 1951.

as a whole. (These products were combined before.) The same is true of Motor Vehicles and Equipment (truck and numerous automotive parts). Employment is also relatively high in Administrative & Auxiliary Offices of manufactures--a fact not discovered in preceding sections.

Farther down the list, we might point out that employment in Trucking and Warehousing and in General Merchandise (under Retail Trade) are again shown to be relatively high in the Area.

Finally, the tabulation again indicates comparatively low employment in the numerous types of services.

This table provided some information about the Fort Wayne economy not already highlighted. The importance of rubber products and administrative offices of manufacturing firms, for example, had not been revealed heretofore.

F. Conclusions, Section on Economic Base

Even though we may have squeezed out all the information one could from the published figures used in this section, we recognize that the results do not add up to a direct and carefully measured expression of the number and distribution of the "basic" and "service" jobs in the Fort Wayne Area. We do not offer apology, because only a large-scale, time consuming field study, using questionaires, interviews, and the like, can give results of even a reasonably definitive sort.

Whether or not more direct field study is feasible depends upon the objectives. There is little value in pursuing such studies merely to get a numerical estimate of "basic" employment at some moment in history. The importance of such research is mainly, it would seem, to gain a better comprehension of the over-all manner in which flows of goods and services, in all directions, take place, and how the economy is likely to operate under various conditions of world, national, regional and local demand and supply.

It would seem to be most valuable to gain further knowledge of the actual markets of the leading firms and understanding of the role of local suppliers of raw and semi-finished goods to these chief firms. Local interdependence and linkages are not brought out by the statistical reports we have used. The chief end products upon which Fort Wayne's economy rests at this time are probably electrical machinery products (various types of motors, first of all, and transformers, generators and related parts), trucks, and radio, TV and related electronic equipment. What are the probable levels of production of these firms, in the immediate future and long run, at the Fort Wayne plants? To what extent are the other firms tied in with the production levels of these firms?

Understanding these matters more fully, which seems to be the heart of the matter of understanding the way goods and services flow, should be of special value to officials concerned with over-all planning of a more efficient land use and physical environment.